

ENVIRONMENTAL ASSESSMENT

PROPOSED SNOWY RANGE RANCH LAND EXCHANGE

**East Fork Mill Creek and Taylor Fork Areas
Gallatin National Forest**

Between

**Walt Weissman
(Snowy Range Ranch)**

And

**USDA Forest Service
Northern Region
Gallatin National Forest
Yellowstone and Hebgen Lake Ranger Districts**

Park County and Gallatin County, Montana

Responsible Official:

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Chapter 1

Purpose and Need

Introduction

This chapter discusses the purpose and need for this proposal. It also defines the proposed action, discusses the scope of action and describes the decision to be made.

The Forest Service and Walt Weissman (“Weissman”), owner of Snowy Range Ranch, are proposing to exchange lands of approximately equal value on the Gallatin National Forest.

Snowy Range Ranch (“SRR”) is a private “inholding”, located in the East Fork Mill Creek area south of Livingston, created in 1921 under the Homestead Act. This homestead is sometimes referred to as “HES 866” (the original Homestead Entry Survey number).

The involved lands are located in two separate geographic areas of the national forest:

- **East Fork Mill Creek area**, located south of Livingston in Park County, on the Yellowstone Ranger District. Refer to the enclosed Vicinity Map.
- **Taylor Fork area**, located south of Big Sky in Gallatin County, on the Hebgen Lake Ranger District.

Refer to the enclosed **Vicinity Map**.

The Forest Service has prepared this Environmental Assessment (“EA”) to address potential environmental effects of the proposal. This EA complies with the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), Council on Environmental Quality (CEQ) regulations, and Forest Service regulations to implement NEPA.

The project file is available for review at the Forest Supervisor’s Office, located in the Federal Building at 10 East Babcock Avenue, Bozeman, Montana. To review or request information from the project file, and also to submit comments, contact Lauren Oswald, Yellowstone Ranger District, 5242 Highway 89 South, Livingston, MT 59047, Phone 406-222-1892.

This EA is organized into five chapters.

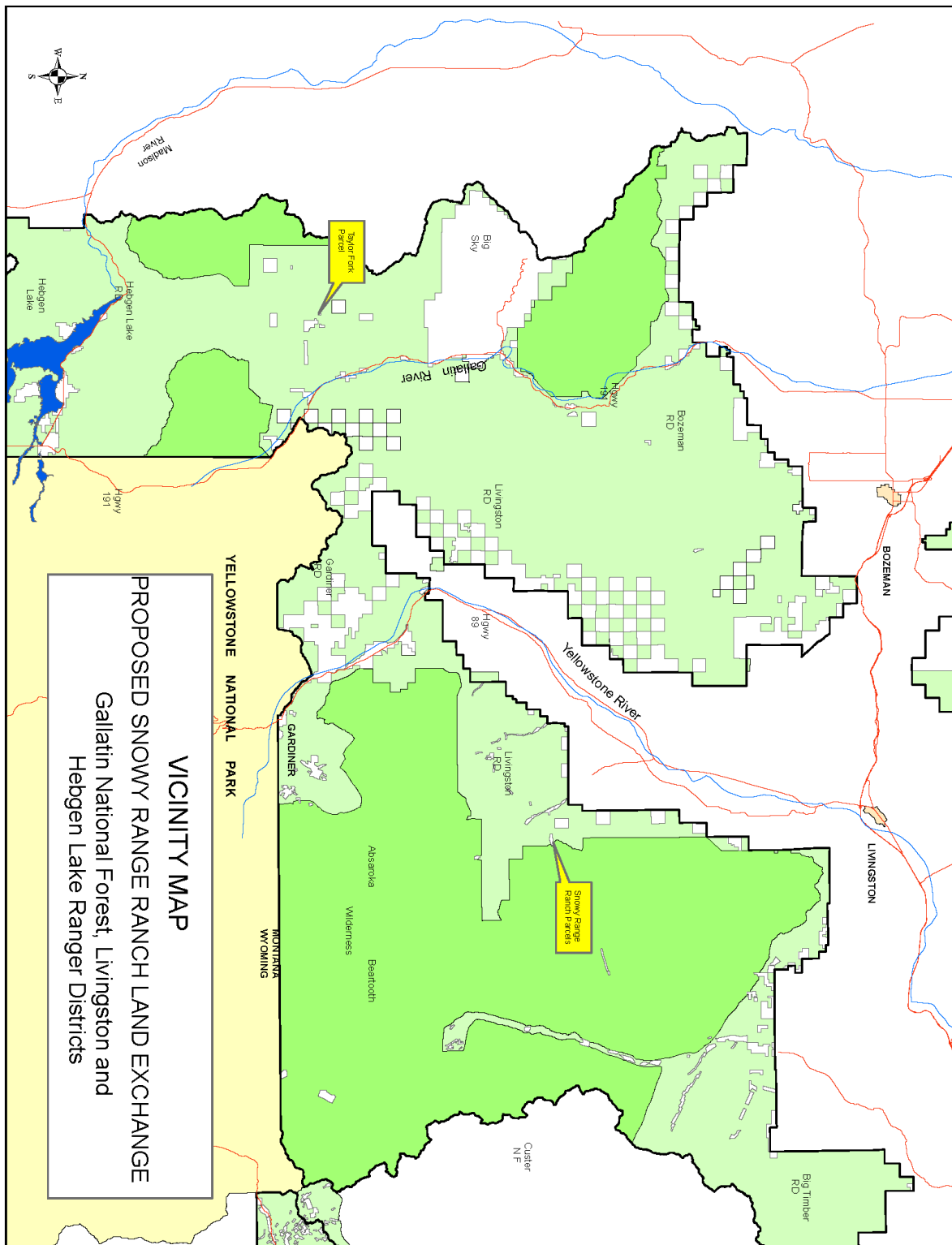
Chapter 1 describes the purpose and need for action and the proposed action.

Chapter 2 identified issues and alternatives.

Chapter 3 describes the affected environment.

Chapter 4 analyzes the environmental consequences of the alternative actions.

Chapter 5 documents the consultation and coordination in compliance with NEPA.



Vicinity Map – Proposed Snowy Range Ranch Land Exchange

Terminology

Within this EA, the following terminology will be consistently used:

- **“Federal lands”** will refer to the specific tracts of National Forest System land in the East Fork Mill Creek area that are proposed for conveyance from the U.S. to Weissman.
- **“Non-federal lands”** will refer to the specific parcels of private land in the East Fork Mill Creek and Taylor Fork areas proposed for conveyance from Weissman to the U.S.
- **“National Forest System” (“NFS”) lands** will refer to the other NFS lands located in the vicinity of East Fork Mill Creek or the Taylor Fork areas.
- **“Private lands”** and **“SRR lands”** will refer to other private lands in the vicinity of East Fork Mill Creek and/or the Taylor Fork areas.

1.1 Purpose and Need for Action

The overall purpose and need for the proposed Snowy Range Ranch Land Exchange has two areas of emphasis, corresponding to the two separate geographic areas of the national forest.

1.1.1 East Fork Mill Creek

In the East Fork Mill Creek area, the purpose of the proposed exchange is to establish a more manageable and clearly-defined boundary between private (SRR) land and NFS lands. Intermingled NFS and private lands are difficult to manage effectively. Both parties desire to consolidate ownership to better manage their respective lands in the future.

Currently, the property line crosses East Fork Mill Creek several times, and tends to be confusing and difficult to locate on the ground. The proposed exchange would consolidate private land ownership north of East Fork Mill Creek and consolidate NFS lands south of the creek. The new boundary would be based on a natural feature, the centerline of East Fork of Mill Creek. The new boundary would reduce inadvertent trespass onto SRR land.

The exchange would also resolve several encroachments (private developments) on the Federal lands identified for exchange in East Fork Mill Creek.

1.1.2 Taylor Fork

The proposed exchange would contribute to a twenty-year effort by the Forest Service, Montana Fish, Wildlife, and Parks (MT FWP), the Rocky Mountain Elk Foundation (RMEF), the Trust for Public Land (TPL), and other partners to acquire and consolidate lands in the Taylor Fork, to conserve the rich public resource values and traditional land uses in that area.

In the Taylor Fork, the primary purpose of this exchange is to acquire a Non-federal parcel with very high wildlife habitat values, particularly for elk, moose and grizzly bear, and with outstanding public recreation potential. The exchange in the Taylor Fork would:

- Improve long-term land management effectiveness.
- Acquire private land with high wildlife habitat value, particularly for elk, moose, and grizzly bear, and outstanding public recreation potential.
- Remove an existing private cabin that is prominently visible from a popular trout fishing stream and public access road.
- Reduce the potential for new private development, private access roads, and associated development in the Taylor Fork.

1.2 Proposed Action

The proposed Snowy Range Ranch Land Exchange involves several small parcels of Federal and Non-federal lands in the East Fork Mill Creek area, south of Livingston on the Yellowstone Ranger District. It also involves one parcel of Non-federal land in the Taylor Fork area, south of Big Sky, on the Hebgen Lake District. All lands are within the Gallatin National Forest.

See the **Vicinity Map** for the geographic context of this proposed land exchange.

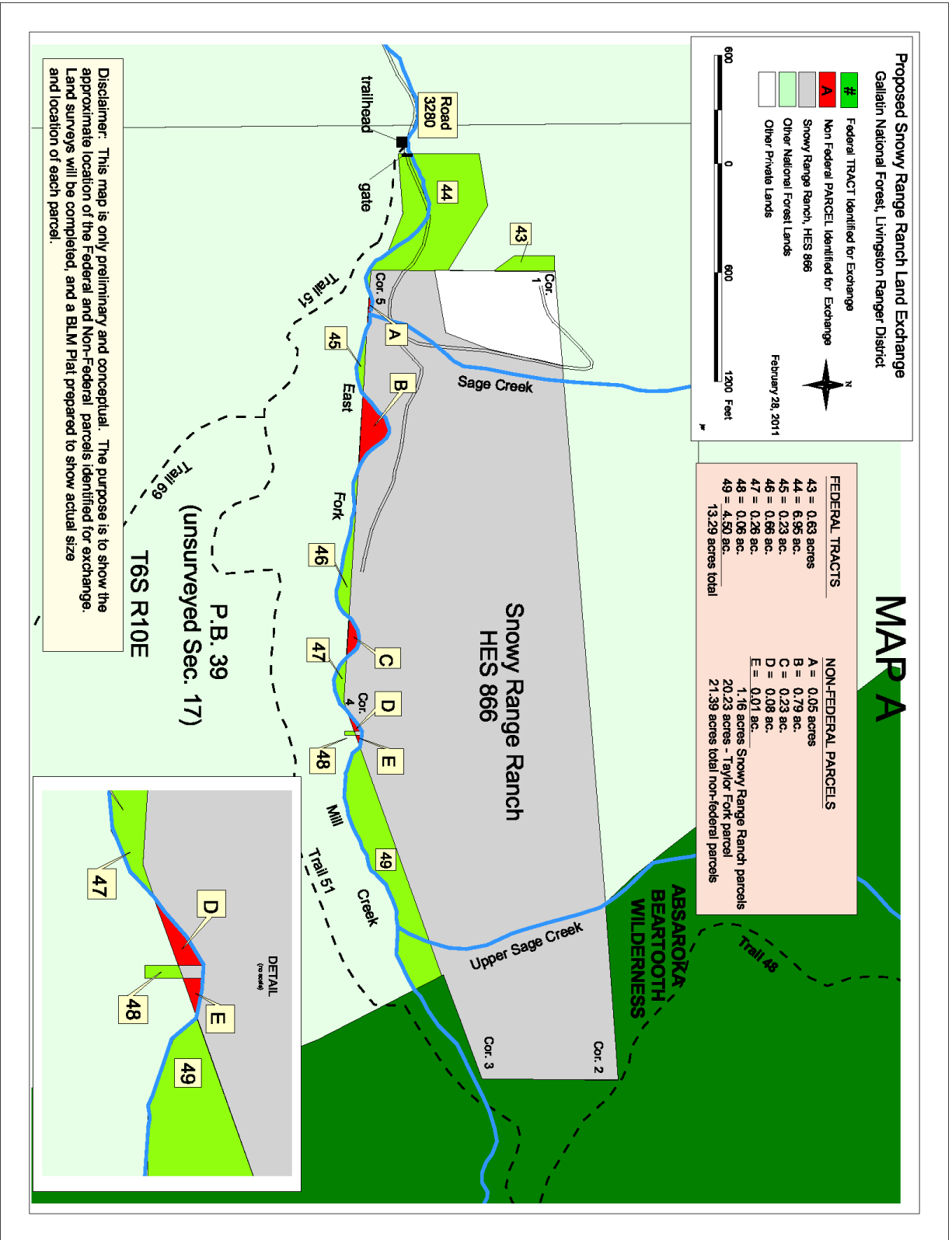
In this proposal, Weissman would convey approximately **21.39 total acres** of Non-federal lands to the United States (“U.S.”) for inclusion in the Gallatin National Forest. In exchange, the U.S. would convey approximately **13.29** acres of Federal lands to Weissman, with deed restrictions.

The enclosed **Map A** shows the specific parcels of Federal and Non-federal lands in the East Fork Mill Creek area. **Map B** shows the one parcel of Non-federal land in the Taylor Fork area.

In this exchange proposal, the U.S. would exchange seven small tracts of Federal lands to Weissman. On Map A, Federal **tracts 45, 46, 47 and 49** are located along the north side of East Fork Mill Creek adjacent to HES 866. **Tracts 43 and 44** are located along the west side of HES 866. **Tract 48** is a 0.06-acre parcel along the south side the creek.

In turn, Weissman would convey six parcels of Non-federal lands to the U.S. Five of the Non-federal parcels, totaling 1.16 acres, are located along the south side of East Fork Mill Creek, adjacent to HES 866. On **Map A**, these five parcels are identified as **parcels A, B, C, D and E**.

The other Non-federal parcel, comprising 20.23 acres, is located in the Taylor Fork area. On **Map B**, this parcel is identified as **parcel F**. It is a remnant “inholding” in Section 1, T9S, R3E, situated just north of Taylor Fork Creek and surrounded by NFS lands.



In this proposal, the U.S. would place permanent **deed restrictions** on the Federal lands identified for exchange to Weissman in the East Fork Mill Creek area. These restrictions would:

- Protect wetlands and riparian areas along East Fork Mill Creek; and
- Prohibit the alteration of flows in East Mill Fork Creek that could adversely affect populations of Yellowstone cutthroat trout, a sensitive species.

This exchange would affect two **cabins** now located on the Non-federal lands. By agreement, the cabin on Non-federal parcel B, just south of East Fork Mill Creek, would be removed by Weissman and the site would be restored. The cabin in the Taylor Fork (Non-federal parcel F) would also be removed and the site restored. Prior to the exchange, Weissman has the option to remove the Taylor Fork cabin, or allow another entity to remove it. However, if he elects not to remove the cabin prior to the exchange, the Forest Service would remove it after the exchange.

As part of this overall proposal, the Forest Service would grant a **Forest road easement** to Weissman, to authorize his continued non-exclusive use and maintenance of East Fork Mill Creek Road No. 3280, an existing National Forest Road that provides access to HES 866.

After the exchange, the Forest Service would revoke a Special Use Permit currently issued to Weissman for one segment of Road No. 3280. That permit would no longer be needed because the affected Federal land (tract 44) would be exchanged to Weissman. After the exchange, Weissman would install and maintain a gate on Road No. 3280 at the new western property line of SRR, on Tract 44. The gate location is beyond the Forest Service trailhead parking area.

1.2.1 Background

In 2006, Weissman contacted the Forest Service and expressed interest in pursuing a land exchange with beneficial public outcomes, while also providing an opportunity for Weissman and the Forest Service to address boundary management issues at Snowy Range Ranch.

During this timeframe, a private in-holding in the Taylor Fork area (Lot 29, Section 1, T9S, R3E) was being offered for sale. (In the current exchange proposal, this Taylor Fork parcel is identified as **parcel F** on Map B.) The Taylor Fork lands provide habitat important for grizzly bear, elk, moose and other species. In 2002-03, the Forest Service, in partnership with TPL, purchased most of the private lands owned by 320 Ranch (David J. Brask), including most of the lands in Section 1. However, several years prior to that purchase, Mr. Brask had sold one parcel (Lot 29) in Section 1 to a private investor. Years later, that investor offered Lot 29 for sale.

With support from the Forest Service and others interested in conserving the Taylor Fork, TPL encouraged Weissman to help protect this Taylor Fork parcel, which could be used as the basis to design a workable trade. Weissman then purchased the Taylor Fork parcel (**parcel F**), removing it from the real estate market, and he offered to exchange it to the Forest Service.

Weissman then met with Forest Service staff to develop a rough outline of a potential trade. No promises were made that an exchange would be consummated, but assurances were given that every effort would be made to bring such a trade to fruition. All parties agreed that this was worthy of the effort and expense, particularly given the importance of the Taylor Fork property.

In the early discussions, Weissman also requested a Forest road easement to ensure his continued non-exclusive use of the East Fork Mill Creek Road No. 3280 leading to SRR. The former Forest Supervisor, Becki Heath, indicated to Weissman that the Forest Service would diligently pursue this land exchange, and would grant the requested Forest Road Easement.

1.2.2 Goals of Proposed Action

Following are goals and desired outcomes of the proposed Snowy Range Ranch Land Exchange:

East Fork Mill Creek - *Simplify the boundary between SRR and the national forest.*

The original homestead claim that established the current SRR used straight line property boundaries without regard to natural features. The resulting southern boundary of SRR is crossed nine times by East Fork Mill Creek. This leads to inadvertent trespass on SRR lands by people using nearby forest East Fork Mill Trail No. 51, and creates four isolated forest tracts that can only be legally accessed by wading across the creek. The proposed exchange would move the property boundary to the centerline of East Fork Mill Creek, creating a more manageable and recognizable boundary between the national forest and private lands.

East Fork Mill Creek - *Resolve existing encroachments on national forest system lands.*

In conducting the field investigations and land surveys for the proposed exchange, several private encroachments were discovered on NFS lands near SRR.

Bill LaWarre (“LaWarre”) owns private land contiguous to SRR, in the northwest portion of HES 866 (See Map A). Several encroachments, including portions of a septic system, driveway, and lawn, are located on NFS lands adjacent to LaWarre’s land and residence.

To address these encroachments, the Forest Service asked Weissman to consider including Federal **Tract 43** (See Map A) in the exchange proposal. Weissman agreed to accommodate this request. The Forest Service proposes to exchange Tract 43 for more pristine and manageable lands. In the exchange, Weissman would accept title to Tract 43 and then re-convey it to LaWarre after the exchange. This exchange would resolve the encroachments without need to consider issuing a special use permit on the encumbered NFS lands.

One other encroachment was discovered on NFS land south of East Fork Mill Creek. It consists of a buried concrete retaining wall, built as part of a micro-hydroelectric facility along the creek (See Map A, **Tract 48**, 0.06 acre). The exchange would place this retaining wall entirely on SRR lands. A patent restriction would prohibit Weissman and subsequent owners from altering the ground surface of Tract 48 or interfering with public foot travel across the land. Under the patent restriction, SRR’s use of Tract 48 would be limited to maintenance of the retaining wall.

Taylor Fork - Consolidate NFS lands in an environmentally sensitive area.

Parcel F (Map B) is one of the few remaining parcels of private land in the Taylor Fork, an area of important habitat for several terrestrial wildlife species and the headwaters of the Gallatin River. Public acquisition of Parcel F would eliminate the potential for further development, roads and associated disturbance of a larger block of consolidated NFS lands.

1.2.3 Lands Proposed for Exchange

Non-Federal lands

The Non-federal lands considered for exchange consist of five small parcels, approximately 1.16 acres in total, located south of the centerline of East Fork Mill Creek (Park County, Section 17, T6S, R10E). These five parcels are identified as Parcels A, B, C, D and E on Map A.

The Non-federal lands also include one 20.23-acre parcel in the Taylor Fork drainage, identified as Parcel F on Map B (Gallatin County, Lot 29, COS 1505A, Section 1, T9S, R3E).

Federal Lands

The Federal lands considered for exchange are shown on Map A. The Federal lands consist of seven tracts which total approximately 13.29 acres. These lands are all located adjacent to private lands of the Snowy Range Ranch or LaWarre in Park County, Section 17, T6S, R10E. The Federal lands are identified as Tracts 43, 44, 45, 46, 47, 48 and 49 on Map A.

Should the appraised value of the Non-federal lands proposed for exchange exceed that of the Federal lands proposed for exchange, the exchange would proceed on an equal-value basis. Weissman would then donate any additional lands of excess value to the U.S.

1.2.4 Easements and Access

In developing the proposed action, the Forest Service made a concerted effort to maintain and improve reasonable, uncontested public access to the NFS lands in the East Fork Mill Creek area. The Forest Service also made an effort to be responsive to Weissman's request to secure legal access rights (an easement) on the existing East Fork Mill Creek Road No. 3280.

To this end, the Forest Service trailhead parking area for East Fork Mill Creek Trail No. 51, and Trail No. 51 itself, will remain entirely on NFS lands and will not be affected by the exchange.

Also, the Forest Service will grant a Forest road easement to Weissman, to authorize his continued non-exclusive use of Road No. 3280. In addition, Weissman currently holds a Special Use Permit from the Forest Service for use and maintenance of a segment of Road No. 3280 and a bridge across East Fork Mill Creek on Tract 44. Should Tract 44 be conveyed to Weissman,

this Special Use Permit would no longer be needed, because that particular road segment and bridge would no longer cross NFS lands.

In addition, two utility companies hold Special Use Permits from the Forest Service to operate and maintain transmission facilities across Tracts 43 and 44. Should these tracts be exchanged to SRR, the Special Use Permits would be modified to exclude those two tracts, and the utility companies would need to secure authorization from Weissman for these facilities.

1.3 Cumulative Actions

A variety of past, present, and reasonably foreseeable future actions may combine with the Proposed Action to be cumulative actions. Individually they could have incremental effects, and when combined with the Proposed Action, could result in cumulative environmental impacts (see Section 4.2).

The Forest Service completed an environmental analysis of the Proposed Action using a team of resource specialists involved with management of NFS lands and resources in and around the East Fork Mill Creek and Taylor Fork areas. The interdisciplinary team (ID Team) identified other past, present and reasonably foreseeable future actions that could combine with the Proposed Action to result in cumulative environmental impacts. The analysis of environmental consequences in Chapter 4 identifies these actions, as applicable for specific issues and resources. Other projects that resulted in acquisition and consolidation of public lands in the East Fork Mill Creek or Taylor Fork areas since 1995 are considered as cumulative actions.

1.4 Management Direction in the Forest Plan

The Forest Plan for the Gallatin National Forest (“Forest Plan”, 1987) provides direction for management activities through identified goals, standards, guidelines, and designations of management areas (MA).

1.5 Scope of the Proposed Action

This EA discloses environmental impacts that would occur from the entire scope of the decision to be made. Scope is defined at 40 CFR 1508.25 as the range of actions, alternatives and impacts to be considered in an EA.

The scope of actions is limited to the proposed land exchange and the associated grant of a road easement and removal of two cabins. The analysis herein is relevant to those actions (including “No Action”) for direct, indirect and cumulative environmental impacts. This EA is not a general land and resource management plan for the Gallatin National Forest.

Currently, there are no known plans for development on the Federal lands or Non-federal lands considered for exchange. Any future development of the lands considered for exchange is not

addressed in this EA. If development is proposed for any of those lands in the future, all appropriate permitting and public review will occur at that time.

This EA is tiered to the Final Environmental Impact Statement and Record of Decision (signed 9/23/87) for the Forest Plan. It does not re-analyze MA allocations specified in the Forest Plan, nor does it seek to re-examine Federal regulations or Forest Service policy regarding land exchanges or land use authorizations.

Implementation of the Proposed Action would not specifically address future management of the lands proposed for public acquisition. Those decisions would be made in amendments to the Forest Plan or in Forest Plan revision. In the interim, the Forest Service would manage the acquired lands consistent with current Forest Plan direction for management of the surrounding NFS lands. Implementation of the Proposed Action would not change travel management plans.

In consultation with the U.S. Fish and Wildlife Service (USFWS), a biological assessment (BA) would be completed for effects on Federally-listed threatened or endangered species.

1.6 Decision to be made

The Forest Supervisor, Gallatin National Forest, is the Deciding Official. This EA is not a decision document. Rather this EA discloses the environmental consequences of implementing the Proposed Action and an alternative to that action. It does not identify the alternative to be selected by the Deciding Official.

This EA serves to:

- (a) Provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) (40 CFR 1508.9(a)).
- (b) Aid in informing the decision process and in complying with NEPA should it be found that EIS is not necessary.

The decision will include all elements of the Proposed Action:

- Lands included in the exchange;
- Easements to be reserved or granted;
- Acceptance of land donation (if applicable);
- Mitigation and monitoring measures, including deed restrictions; and
- Whether to implement the proposed land exchange.

A decision to implement the Proposed Action will require the Deciding Official to issue a Finding of No Significant Impact. The Decision and the rationale for that decision will be stated in the Decision Notice.

1.7 Documents Incorporated by Reference

This EA incorporates by reference the following specialist reports and NEPA documents with information for relevant programs, plans and projects. These documents are available in the project file:

- Specialist Reports for the Snowy Range Ranch Land Exchange Environmental Assessment, February 2008 through September 2009.
- Planning Documents for the Snowy Range Ranch Land Exchange Environmental Assessment, December 2008 through July 2009.

Chapter 2

Alternatives

Introduction

This chapter discusses results of agency scoping and the public involvement process. It identifies the issues and alternatives evaluated in this EA, and it discusses mitigation measures.

Section 102(2)(e) of the National Environmental Policy Act requires Federal agencies to study, develop, and describe appropriate issues and alternatives for proposed courses of action. Issues may be expressed as interests, concerns, disputes or debates about potential effects of an action. NEPA requires Federal agencies to identify and assess a range of reasonable alternatives to recommended courses of action, including taking no action (Sec. 102 [42 USC 4332]; 40 CFR 1502.14).

Alternatives in this EA were developed in response to issues that scoping determined to be important to the decision. Scoping also identified other issues that are not important or have been covered adequately in other environmental documents. Documents related to public scoping and development of issues and alternatives are available in the project file.

2.1 Public Involvement

On April 10, 2009, the Forest Service mailed a letter providing information about the project and soliciting comment to 52 interested and/or affected individuals and organizations. This outreach generated three substantive public or agency comments, and the ID Team identified four important areas of concern and several minor areas of concern.

Topics identified as important to members of the public and/or to the Forest Service included:

- 1) Assurance of continued public access to Forest land, particularly fishing access;
- 2) Development on private lands within the National Forest;
- 3) Protection of important wildlife habitat;
- 4) Protection of riparian areas and wetlands;
- 5) Encroachment of private facilities upon the National Forest

2.2 Significant Issues

The ID team determined that two alternatives, No Action and the Proposed Action, would adequately identify and resolve any conflicts associated with the significant issues:

Alternative 1 – No Action, *Do not implement the land exchange*

Alternative 2 – Proposed Action, *Implement the land exchange*

The comparison of these two alternatives led to identification of the following five issues:

Issue 1 – Wetland, Floodplain, and Riparian Area Protection

Issue 2 – Fisheries-Maintenance or Loss of Habitat

Issue 3 – Wildlife-Maintenance or Loss of Habitat

Issue 4 – Encroachment on NFS Lands

Issue 5 – Public, private, and administrative Access

Issue 1 – Wetland, Floodplain, and Riparian Area Protection

Wetlands and riparian vegetation provide a transition between upland and aquatic habitats. As such, they are important to a wide variety of terrestrial and aquatic species. Wetlands also provide benefits such as flood moderation, water quality protection and stabilization of banks.

Floodplains are low-lying areas adjacent to streams that are periodically inundated by overbank flows. Natural floodplains slow flood progress downstream and provide storage for flood waters. Development or disturbance of floodplains areas can lead to increased flood hazard in downstream areas.

Much of the land proposed for exchange in the East Fork Mill Creek area includes streamside wetlands, floodplains and areas of riparian vegetation. Any development that may occur on NFS lands conveyed into in private ownership could adversely affect wetlands and riparian areas.

Issue 2 – Fisheries - Maintenance or Loss of Habitat

East Fork Mill Creek is important habitat for the Yellowstone cutthroat trout, a species of special concern for MT FWP and a sensitive species for the Forest Service. Due to the presence of this species, any changes in land ownership along East Fork Mill Creek, and potential subsequent changes in land management and development, are of concern.

The proposed action would involve exchange of lands within the East Fork Mill Creek riparian area. Any development activities which might occur on the private lands resulting from the proposed exchange could affect Yellowstone cutthroat trout habitat.

Issue 3 – Wildlife - Maintenance or Loss of Habitat

All the lands in the project area are within occupied range of the grizzly bear, a threatened species under the Endangered Species Act. The Taylor Fork provides highly productive habitat for this species. Consolidation of NFS lands in the Taylor Fork area would help conserve productive habitat for the grizzly bear.

Although the lands proposed for exchange are too low in elevation to be considered home range habitat for the Canada lynx, a threatened species under the Endangered Species Act, riparian areas along East Fork Mill Creek may be used as travel habitat by lynx. Land exchanges that result in increased development along the riparian area of East Fork Mill Creek have the potential to adversely affect lynx use of the riparian area as travel habitat.

Issue 4 – Encroachments on NFS Lands

Several existing private facilities, including a concrete wall for a micro hydro-electric power facility, residential lawn, driveway, and septic system; encroach on NFS lands in the project area. Forest Service authorization is required to operate private facilities on NFS lands. The proposed action would convey into private ownership all Federal lands containing private encroachments. This would eliminate the need to consider authorizing the private improvements on NFS lands, and facilitate public acquisition of other lands that are not encumbered by private encroachments.

Issue 5 – Public, Private, and Administrative Access

Access to NFS lands serves multiple uses, including recreation, livestock grazing, timber management, recreation, fire protection and law enforcement. Access to private lands also serves diverse uses, including ranching, timber, recreation, and residential and commercial purposes. Changes in land ownership can alter longstanding public access patterns, resulting in potential for conflict between private owners and people recreating on the national forest.

One purpose of the Proposed Action is to make the National Forest Boundary easier to identify by consolidating private lands on the north side of East Fork Mill Creek and NFS lands on the south side of the creek. The proposed action would not affect the existing Forest Service trailhead parking area at the end of East Fork Mill Creek Road No. 3280. The proposed action would also not affect East Fork Mill Creek Trail No. 51, a NFS trail that extends from the trailhead, around SRR land to the A-B Wilderness.

Consolidating NFS lands in Section 1 of the Taylor Fork area, as proposed, would eliminate the potential need to provide future road and bridge access across NFS lands to the private parcel.

2.3 Minor Issues

Agency and public scoping also identified other interests and concerns that were determined to be minor issues. This EA does not analyze these issues in detail, because implementing either of the alternatives would either have no effect or only minor effects related to these issues.

Fire Management

There would be no substantial change in access for fire suppression with any action. Fire suppression agencies would retain access to the Federal lands considered for exchange for emergency purposes such as wildfire response, whether in public or private ownership.

Noxious Weeds – Susceptibility and Spread

According to the invasive weeds inventory for the Gallatin National Forest, and a sensitive plants survey, the Non-federal parcel in the Taylor Fork has no known infestations of noxious weeds.

The lands proposed for exchange in the East Fork Mill Creek area support scattered infestations of hounds tongue, Canada thistle, and cheat grass. The specialist's report on noxious weeds concluded the proposed exchange would benefit the national forest, because approximately 13.29 acres of potentially-infested lands would be conveyed to private and only approximately 1.16 acres of potentially infested lands would be added to the national forest (LaMont 2010).

Sensitive Plants

No sensitive plant species were found during 2008 surveys of Federal tracts 43-49 proposed for conveyance in East Fork Mill Creek, so any future private use of these tracts is not expected to impact sensitive plants. Federal tract 44 has experienced past disturbance and is currently occupied by non-native and invasive plant species such as dandelion and hounds tongue. Sensitive plants typically do not occupy disturbed sites. Riparian tracts 44-49 would be protected from future development through the imposition of patent restrictions.

Livestock Grazing

There is no current grazing on any lands proposed for exchange. SRR was used for livestock grazing until 2002, when Weissman discontinued grazing to protect riparian vegetation and water quality along East Fork Mill Creek and its tributaries.

Cultural Resources

The Forest Service conducted an archeological survey of the Federal lands considered for exchange. No cultural or archeological resources were identified on or near these lands.

Mineral Potential and Risk of Development

The Forest Service mineral report indicated low mineral potential and low risk of development on all lands proposed for exchange. This is based on a lack of evidence of past mineral development in the two geographic areas and unfavorable site geology (Werner, 2009).

Hazardous Materials

No evidence of hazardous materials was found on any of the Federal lands or the Non-federal lands considered for exchange (White 2007, supplemented in 2011).

2.4 Alternatives Considered in Detail

The ID Team determined that two alternatives, "No Action" and the "Proposed Action", would adequately identify and resolve conflicts associated with important issues:

- **Alternative 1 – No Action**
Do not implement the proposed land exchange.

- **Alternative 2 – Proposed Action**
Implement the proposed land exchange.

These two alternatives were determined to be adequate because:

(a) the significance of environmental issues could be minimized through application of mitigation and design features to the Proposed Action, and (b) the effects can be adequately understood through comparison of the Proposed Action and No Action alternatives.

2.4.1 Alternative 1 – No Action

Do Not Implement the Proposed Land Exchange

This alternative is required by NEPA (40 CFR 1500-1508) and represents reasonably foreseeable conditions that would be expected to occur in the absence of the proposed exchange. Alternative 1 would not change existing land ownership in the East Fork Mill Creek and Taylor Fork areas.

2.4.2 Alternative 2 – Proposed Action

Implement the Proposed Land Exchange

Alternative 2 would implement the Proposed Action, which was developed to meet the purpose and need, described in Chapter 1. This alternative implements an exchange of lands between the U.S. and Weissman to consolidate NFS lands in the Taylor Fork area, and to clarify the boundary between private and NFS lands, while resolving encroachments on NFS lands in the East Fork Mill Creek area. The Forest Service presented this alternative as the “Proposed Action” during public scoping in 2009. The Proposed Action includes the following components:

Land Exchange:

Weissman would exchange to the U.S., for inclusion in the Gallatin National Forest, a total of approximately 21.39 acres of Non-federal lands in six separate parcels, as follows:

- Five parcels, approximately 1.16 acres in total, located south of the centerline of East Fork Mill Creek. The lands are within Section 17, T6S, R10E, in Park County. The lands are designated Parcels A, B, C, D, and E, and are depicted in red on Map A.
- One parcel, approximately 20.23 acres, located in the Taylor Fork. This land is depicted as Parcel F on Map B, and described as Lot 29, COS 1505A, Section 1, T9S, R3E, in Gallatin County.

The U.S. would convey to Weissman a total of approximately 13.29 acres of Federal lands in seven separate tracts. The lands are within Section 17, T6S, R10E, in East Fork Mill Creek, in Park County. The Federal tracts are designated Tracts 43 – 49 and depicted in green on Map A.

Grant of Road Easement:

In the proposed exchange, the Forest Service would grant Weissman a FLPMA Forest road easement to authorize his continued non-exclusive use of East Fork Mill Creek Road No. 3280, an existing National Forest road that provides the only road access to SRR.

Modify Two Special Use Permits Affecting Tracts 43 and 44:

Park Electric Cooperative holds a Special Use Permit from the Forest Service to operate and maintain an electrical transmission line (“Mill Creek Line”) across Tract 43. The corridor for this line is 20 feet wide. Upon implementation of the Proposed Action, the Forest Service would modify the Permit to exclude Tract 43. Following the exchange, Park Electric would need to secure authorization from Weissman for the facility.

Quest holds a Special Use Permit from the Forest Service for a telephone line, partially buried, the corridor of which is variable in width, across Tract 44. Upon implementation of the Proposed Action, the Forest Service would modify the Permit to exclude Tract 44. Following the exchange, Quest would need to secure authorization from Weissman for the facility.

Removal of Cabins

Taylor Fork: By agreement, the cabin in Parcel F in the Taylor Fork may be removed prior to, or after, consummation of the exchange. Prior to the exchange, Weissman, at his own discretion, may remove the cabin from Parcel F in the Taylor Fork, or he may allow a third party to remove it. After the exchange, the Forest Service would be responsible to remove the cabin.

East Fork Mill Creek: Prior to consummation of the exchange, Weissman would remove the cabin and associated improvements from Parcel B in East Fork Mill Creek.

Patent Restrictions

As further described below under Mitigation Measures, the Proposed Action would include permanent patent restrictions on Federal Tracts 44, 45, 46, 47, 48, and 49 to protect riparian areas, wetlands and flood plains associated with East Fork Mill Creek.

Land Donation

By agreement, if the final approved appraisals conclude that the total value of the Non-federal lands exceeds the total value of the Federal lands considered for exchange, Weissman would donate any additional Non-federal land to the U.S. Chapter 3 includes a description of the results of the final appraisals of the involved lands.

2.5 Alternatives Considered and Eliminated from Detailed Analysis

Forest Service policy on land exchange requires consideration of a direct purchase alternative

(FSH 5409.13). This alternative was considered, but not evaluated in detail, for the Snowy Range Ranch Land Exchange. Weissman has no interest in selling any land to the U.S., only in exchanging the Non-federal lands for Federal lands adjacent to SRR (see letter from Weissman, Appendix A).

No other alternatives were considered, as the Proposed Action fully addresses the purpose and need for action, and no other action available to the Forest Service would do so.

2.6 Mitigation Measures

Forest resource specialists, through the ID Team, identified mitigation measures to provide appropriate avoidance, minimization, restoration, elimination, or compensation for impacts (40CFR 1508.2). Mitigation measures are presented below for relevant issues and National Forest resources:

2.6.1 Mitigation for Issue 1 – Wetland and Riparian Area Protection

Approximately 5.7 acres of wetlands, floodplains or riparian areas associated with the East Fork Mill Creek and its tributaries exist on Federal Tracts 44 -49.

Approximately 1.16 acre of wetlands, floodplains and riparian areas associated with East Fork Mill Creek and its tributaries exist on Non-federal parcels A – E (Story 2009).

This imbalance and net loss is contrary to Forest Service policy. FSM 2527 directs that the value of wetlands/floodplains must be equal in land exchanges. If the wetlands/floodplains value of the Federal lands exceeds those of the Non-federal lands, the exchange can proceed providing it is clearly to the benefit to the National Forest, and provided potential adverse impacts to the wetlands/floodplains are clearly protected, so that no net loss of wetlands/ floodplain occurs.

To ensure no loss of wetland, floodplain or riparian area values, the patents conveying Federal tracts 44 – 49 would include permanent restrictions stipulating that the lands shall not be drained, dredged, channelized, filled, diked, or managed in any fashion so as to change the natural elements of the floodplain/wetland riparian area. A further patent restriction, specific to Federal tract 48, which contains a buried concrete wall, stipulates that the tract may not be developed, used, barricaded, altered or managed in any fashion so as to change the natural elements of the surface area. All patent restrictions provide for periodic compliance inspection by the Forest Service and its representatives.

2.6.2 Mitigation for Issue 2 – Fisheries - Maintenance or Loss of Habitat

The patent restrictions described above for protection of wetlands, floodplains, and riparian areas should also provide protection of habitat for Yellowstone cutthroat trout (Shuler 2009).

Chapter 3

Affected Environment

Introduction

Chapter 3 begins with a brief general description of the lands considered for exchange. A more detailed description of the biological, physical, social, economic, and regulatory conditions specific to each of the four important issues raised by implementation of the alternatives described in Chapter 2 follows.

3.1 Analysis Area

The analysis area includes the lands considered for exchange and adjacent lands within one mile.

3.2 Location

The lands considered for exchange are located in two distinct areas (Refer to Vicinity Map):

- In the East Fork Mill Creek area, near HES 866, Park County, Montana, and
- In the Taylor Fork area, north of Taylor Fork Creek, Gallatin County, Montana.

The lands considered for exchange are located on the Yellowstone and Hebgen Lake Ranger Districts of the Gallatin National Forest.

SRR is located in the Paradise Valley, along East Fork Mill Creek, approximately 23 miles south of Livingston. The primary route of travel to this area is U.S. Highway 89 to the Mill Creek County Road to East Fork Mill Creek Road No. 3280, a National Forest road.

The Taylor Fork watershed is located approximately 45 miles southwest of Bozeman, Montana, near the northwest entrance to Yellowstone National Park. The primary route to this area is U.S. Highway 191 to Taylor Fork Road No. 134. There is no direct vehicular access to Parcel F.

The general physical setting in the East Fork Mill Creek area consists of timbered creek bottomlands with some natural clearings. In the Taylor Fork area setting is rolling open sagebrush and grass meadows with scattered trees. Elevations range from 5,700 to 5,800.

3.2.1 Federal lands

The Federal lands considered for exchange consist of a total of approximately 13.29 acres, in seven separate tracts, as shown in green as Tracts 43 - 49 on Map A. All these tracts are located in the East Fork Mill Creek area in Section 17, T6S, R10E. These seven tracts all adjoin private lands. Four of the Federal tracts (45, 46, 47, and 49) are located between SRR to the north and East Fork Mill Creek to the south. The eastern edge of Tract 49 borders the A-B Wilderness.

Federal Tract 44 abuts SRR and includes lands on both sides of East Fork Mill Creek. Tract 44 also contains a bridge crossing that provides road access to SRR and adjacent private land.

Federal Tract 43 adjoins the private lands within HES 866 owned by Bill LaWarre, and includes several private encroachments associated with the LaWarre residence.

Federal Tract 48 is located south of East Fork Mill Creek and contains a buried retaining wall associated with a hydroelectric generating facility installed and operated by SRR.

The Federal lands proposed for exchange are primarily forested bottomland along East Fork Mill Creek and two tributary streams. The areas adjacent to the creek support scattered spruce and Douglas-fir with a dense understory.

3.2.2 Non-federal lands

In consideration for the exchange of Federal lands described above, Weissman would convey to the U.S., for inclusion in the Gallatin National Forest, a total of approximately 21.39 acres of Non-federal lands in six separate parcels, as shown in red on Maps A and B.

Five of the Non-federal parcels (Parcels A- E on Map A), totaling approximately 1.16 acres, are located on the south side of East Fork Mill Creek, in Section 17, T6S, R10E. The sixth Non-Federal parcel (Tract F, Map B) is approximately 20.23 acres in size. It is located in the Taylor Fork area in Section 1, T9S, R3E. Parcel F adjoins NFS lands on all sides.

The Non-federal lands in the East Fork Mill Creek area are forested bottomlands along East Fork Mill Creek and its tributaries, very similar in character to the Federal lands in that area.

The Non-federal parcel in the Taylor Fork consists of rolling terrain, primarily open meadow, dominated by grasses and sage, with a number of small wet pockets and scattered lodgepole pine trees. One small cabin exists on Parcel F, which would be removed in the proposed exchange.

3.3 Forest Plan Direction

The Forest Plan provides direction for management of the Gallatin National Forest. The Forest Plan sets forest-wide goals and objectives, standards and guidelines. The Forest Plan is available in the project file. Forest Plan Goals and Objectives that apply to the exchange proposal include:

- *Strive to prevent any human-caused grizzly bear losses (II-1, A(9)).*
- *Manage national forest lands in the present ownership patterns except where opportunities arise to accomplish specific objectives (II-2, A(19)).*

- *Land adjustments will be made when shown to be advantageous to the public (II-6, k).*

The Forest Plan also provides guidance for management of specific land areas, referred to as “Management Areas” (MAs). Forest Plan MA direction for the Federal lands considered for exchange, and for the NFS lands adjacent to the Non-Federal lands, is summarized below.

3.3.1 Federal Lands

The Forest Plan assigns three MAs to the Federal lands proposed for exchange. These MAs are:

MA 5 – Travel corridors that receive heavy recreation use due to accessibility from highways and high quality recreation opportunities. The Federal land in MA 5 is adjacent to East Fork Mill Creek Road No. 3280.

MA 6 – Large blocks of undeveloped land with trail systems and few roads. These areas have no timber management and provide a wide variety of dispersed recreation opportunities.

MA 11 – Big game habitat in areas forested areas. This MA is available for timber management, provided that big game habitat objectives are met.

3.3.2 Non-federal Lands

The Forest Plan assigns one MA (MA 6) to the NFS lands adjacent to the Non-federal lands in the East Fork Mill Creek. MA 6 contains areas of undeveloped land with a trail system and few roads. The lands provide a wide variety of opportunities for dispersed recreation.

The Forest Plan also assigns one MA (MA 15) to the NFS lands adjacent to Parcel F in the Taylor Fork. MA 15 contains areas within occupied grizzly habitat that provide for dispersed recreation interspersed with suitable livestock range. This MA contains open grasslands or a mosaic of grassland and unproductive timber.

Until a Forest Plan amendment or revision is conducted, the Non-federal lands to be acquired by the U.S. would be managed by the Forest Service according to the MA of adjacent NFS lands.

3.4 Wilderness and Roadless Areas

3.4.1 Laws, Regulations, Policy and Direction

Wilderness

The Wilderness Act of 1964 (P.L. 88-577) established the National Wilderness Preservation System, a network of public lands set aside in their natural condition as an “*area where the earth and its community of life are untrammeled by man...*”; wilderness retains “*its primeval character and influence, without permanent improvements*”, which is to be “*managed so as to preserve its natural conditions...*”; wilderness “*generally appears to have been affected primarily by the*

forces of nature, with the imprint of man's work substantially unnoticeable...". It also has outstanding opportunities for solitude or a primitive and unconfined type of recreation.

The Absaroka-Beartooth Wilderness was established on March 27, 1978 by an Act of Congress, Public Law 95-240. This Act set aside almost 1,000,000 acres on the Gallatin, Custer, and Shoshone National Forests as part of the National Wilderness Preservation System. In designating the A-B, Congress assured this enduring wilderness resource would be secured for the American people of present and future generations.

The Forest Service Manual gives guidance on managing NFS lands adjacent to wilderness.

Because wilderness does not exist in a vacuum, consider activities on both sides of wilderness boundaries during planning and articulate management goals and the blending of diverse resources in forest plans. Do not maintain buffer strips of undeveloped wildland to provide an informal extension of wilderness. Do not maintain internal buffer zones that degrade wilderness values. Use the Recreation Opportunity Spectrum (FSM 2310) as a tool to plan adjacent land management. FSM 2320.3(5).

The Forest Plan includes this goal for wilderness: *"Manage existing and recommended wilderness resource to maintain its wilderness character and provide for its use and protection"* (1987: II-1).

"Roadless Areas"

An inventory of roadless lands on the Gallatin National Forest has been maintained since the early 1970s. The current inventory was displayed most recently in the Roadless Final Rule (36 CFR 294, USDA 2001) and is also found in Appendix C of the Forest Plan EIS (USDA 1987).

Roadless areas are to be analyzed to determine the effects of any proposed activity that would substantially alter their characteristics so as to render them unsuitable for future designation as wilderness. Roadless qualities and characteristics to be evaluated under this mandate include:

1. High quality or undisturbed soil, water and air,
2. Sources of public drinking water,
3. Diversity of plant and animal communities,
4. Habitat for threatened and endangered species,
5. Primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation,
6. Reference landscapes,
7. Natural-appearing landscapes with high scenic quality,
8. Traditional cultural properties and sacred sites and,
9. Other locally defined unique characteristics.

Wilderness qualities and characteristics to be evaluated to determine potential for future wilderness designation include:

Remoteness: Remoteness is a perceived condition of being secluded, inaccessible, and out of the way. Physical factors that can create a “remote” setting include topography, vegetative screening, difficulty of travel, and distance from human impacts such as roads and structures. A user's sense of remoteness in an area is also influenced by the presence of roads, their condition, and whether they are open to motorized vehicles.

Solitude: Solitude is a personal, subjective value defined as isolation from the sights, sounds, and presence of others and human development. Common indicators of solitude are the number of individuals or parties one may expect to encounter in an area during the day, or the number of parties camped within sight and sound of other visitors. Solitude is directly related to remoteness of an area and primitive, unconfined recreational opportunities.

Natural Integrity: Natural integrity of an area is related to its physical setting and the extent to which long-term ecological processes are intact and operating. Impacts to natural integrity are measured by the presence and magnitude of human-induced change to the area. Possible impacts include physical developments (e.g. roads, utility rights-of-way, fences, lookouts, cabins), recreation developments, domestic livestock grazing, mineral developments, wildlife and fisheries management activities, vegetative manipulation, and fire suppression activities.

Apparent Naturalness: The apparent naturalness of an area means the environment looks natural to most people using the area. It is a measure of importance of visitors' perceptions of human impacts to the area.

Special Features: Special features are those unique geological, biological, ecological, cultural, or scenic features that may be located in the roadless portion of the project area.

Manageability of Boundaries: This relates to the ability of the Forest Service to manage an area to meet the size criteria (minimum size requirement of 5,000 acres) and the five elements discussed above.

3.4.2 Affected Environment

The following summary of wilderness and roadless area potential of the lands proposed for exchange is based upon the Recreation Specialist Report for the Snowy Range Ranch Land Exchange (Urie and Davies 2009).

East Fork Mill Creek

The A-B Wilderness borders the Federal lands in the East Fork Mill Creek area. The Federal lands are outside of any inventoried roadless area.

Taylor Fork

The parcel to be acquired in the Taylor Fork is located within the “Madison Roadless Area”.

3.5 Geology and Minerals

3.5.1 Laws, Regulations, Policy, and Direction

The USDI Bureau of Land Management (“BLM”) is responsible for management of the Federal mineral estate. BLM (Manual 3060.11) requires preparation of a mineral report for all Non-federal and Federal lands identified for acquisition or conveyance by the U.S. The mineral report documents the mineral potential, evaluates surface uses that would interfere with potential development of the mineral estate, and recommends actions to be taken regarding a potential conveyance or retention of the Federal mineral estate.

The Forest Service Handbook on land exchanges advises against the creation of “split estates” in which different entities own the surface land and the underlying mineral rights. Split estates may be created in land exchanges if the Forest Service determines that it is in the public interest to acquire the Non-federal land without the mineral estate. This determination shall be documented in the mineral report and disclosed in the NEPA analysis and decision document (FSH5409.13 chapter 33.43f 2).

3.5.2 Affected Environment

The following summary of mineral potential of the lands proposed for exchange is based upon the Mineral Report prepared for the SRR Land Exchange (Werner 2009).

East Fork Mill Creek

The Federal lands proposed for exchange have minimal potential for discovery of economically viable mineral deposits of any kind. Accordingly, a low potential for occurrence for all locatable, leasable and saleable resources (oil & gas, geothermal, coal, or mineral materials) has been assigned. The level of certainty for all resource evaluations can be assigned a Certainty Level of “C”, corresponding to there being a minimum of quantitative direct evidence such as past mining or exploration activity to support such a designation.

The mineral potential analysis of the Federal tracts is based on a field investigation, a review of the Federal minerals database, historical records, and applicable geologic literature. The evaluation is based largely on previous geologic evaluations and a filed investigation.

The Non-federal lands in the East Fork Mill Creek are likely to have minimal potential for the discovery of economically viable mineral deposits. Accordingly, a low potential for occurrence for all locatable, leasable and saleable resources has been assigned. The level of certainty for all resource evaluations is assigned a Certainty Level of “C”, because there is minimal quantitative direct evidence, such as past mining or exploration activity, to support such a designation.

There are no severed mineral estates, no unpatented mining claims, and no oil/gas leases on any lands proposed for exchange in the East Fork Mill Creek area.

Taylor Fork

The Non-federal lands in the Taylor Fork are likely to have minimal potential for the discovery of economically viable mineral deposits of any kind. Accordingly, a low potential for occurrence for all locatable, leasable and saleable resources has been assigned. The level of certainty for all resource evaluations is assigned a Certainty Level of “C”, because there is minimal quantitative direct evidence, such as past mining or exploration activity, to support such a designation.

The oil and gas mineral rights on the 20.39-acre parcel in the Taylor Fork (Parcel F) are outstanding, and currently owned by Conoco-Phillips of Texas. Therefore, the oil/gas mineral rights would not transfer to the U.S. in the exchange. The mineral potential for leasable minerals, specifically oil and gas, is low. The associated risk of the mineral rights owner exercising their rights is also considered low. There are no unpatented mining claims, oil and gas leases or active mining activity on the Taylor Fork parcel.

3.6 Wetlands, Floodplains, and Riparian Areas (Issue 1)

3.6.1 Laws, Regulations, Policy, and Direction

The regulations implementing *Section 404 of the Clean Water Act* define “**wetlands**” as:

Those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CFR 328.3).

Executive Order 11990 directs Federal agencies to minimize destruction, loss or, degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands.

Forest Service policy states that, in situations where wetland/floodplain values are not equal, the exchange can proceed provided it clearly benefits the National Forest System and potential adverse impacts to floodplains/wetlands on Federal lands are protected and mitigated so that floodplain/wetland functions are not reduced by the exchange (FSH 5409.13, 33.43c).

The regulations implementing *Section 404 of the Clean Water Act* define Riparian Areas as:

Lands adjacent to streams, rivers, lakes, and estuarine-marine shorelines. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality (33CFR 332.2).

The Forest Plan (1987) contains forest-wide standards to carefully manage key migratory bird habitat components such as snags and down woody debris, cliffs, caves and riparian areas, and habitat for waterfowl, shorebirds and wading birds.

3.6.2 Affected Environment

The following summary description of wetland, floodplain, and riparian resources on the lands proposed for exchange is based on the Wetland-Floodplain Report (Story 2009) for the Snowy Range Ranch Land Exchange.

East Fork Mill Creek

Based on numerous site visits, the Federal tracts contain a total of 5.7 acres of floodplain/wetland areas along East Fork Mill Creek and Lower Sage Creek. The Non-federal parcels include 1.4 acres of floodplain/wetland areas along East Fork Mill Creek.

Taylor Fork

The Non-federal land (Parcel F) contains 1.0 acre of isolated emergent wetlands, and no floodplain area.

Overall, the land exchange would convey approximately 5.7 acres of wetlands and floodplain into private ownership with patent restrictions, and it would convey approximately 2.4 acres of wetlands and 1.4 acre of floodplain into public ownership.

3.7 Fisheries (Issue 2)

3.7.1 Laws, Regulations, Policy, and Direction

The NFMA requires Federal agencies to provide for diversity of plant and animal communities based on the suitability and capability of the specific land area, to meet overall multiple-use objectives (16 USC 1604(g)(3)(B)). The Endangered Species Act (ESA) mandates that Federal agencies ensure that any action authorized is not likely to jeopardize the continued existence of threatened or endangered species (50 CFR 402 Section 7).

FSM 2670.32 requires that the Forest Service avoid or minimize impacts to Sensitive Species. If impacts cannot be avoided, the agency must analyze the significance of potential adverse effects on sensitive species populations or habitat within the area of concern.

The Forest Plan includes these goals for fisheries: “*Maintain and enhance fish habitat to provide for increased fish population,*” and “*Provide for a broad spectrum of recreation opportunities in a variety of Forest settings*” (1987: II-1).

3.7.2 Affected Resource

The following description of fisheries resources on the lands proposed for exchange is based on the Aquatics report for the proposed Snowy Range Ranch Land Exchange (Shuler 2009). The fisheries resource also includes recreational access to fishable waters.

East Fork Mill Creek

East Fork Mill Creek is a third-order tributary to Mill Creek, a tributary to the Yellowstone River. The bank-full channel width varies by reach, but averages approximately 35 feet. Base stream flow is approximately 8 cubic feet per second (cfs), with high flows during spring snowmelt runoff in excess of 100 cfs (based on personal observation). East Fork Mill Creek supports a locally and regionally important recreational fishery.

The entire Mill Creek watershed, including East Fork Mill Creek, provides substantial habitat for Yellowstone cutthroat trout (YCT), considered a *Species of Special Concern* by MT FWP and a *Sensitive Species* by the Forest Service. The current geographic distribution of "genetically pure" YCT encompasses less than 10 percent of the species' historic range. There are 36 remaining populations throughout the entire historic range, most of which are isolated with little potential for genetic exchange. This situation contributes to the decline YCT. Unlike most isolated populations, the YCT inhabiting streams throughout the Mill Creek drainage are not geographically isolated within the drainage and sub-populations are relatively interconnected with few man created barriers (e.g., road culverts). Thus, YCT inhabiting the Mill Creek drainage are extremely important to conservation and recovery of the species. MT FWP and the Forest Service have designated the Mill Creek drainage as a core conservation population.

A man-made barrier was constructed near the Forest boundary in Mill Creek in 1996 to preclude rainbow trout and other non-native species from the drainage. However, recent population surveys revealed that rainbow trout are now present in the drainage. The source of rainbow trout is uncertain, but genetic testing suggests a hatchery origin. Recent genetic testing also revealed that hybridization between rainbow and Yellowstone cutthroat has occurred in the last few years.

Forest Plan implementation guidelines, outlined in an agreement with the Madison-Gallatin Chapter of Trout Unlimited, classify streams into four different categories (Class A, B, C and D) each with unique fisheries management and habitat goals.

These four categories were recently modified in the Forest Travel Plan (Gallatin National Forest, Travel Management Plan, Final EIS, Detailed Description of the Decision 2006: I-11 through I-13) to include only two categories, A and B. This modification is more consistent with Montana's water quality laws. Class A streams are the highest value streams for fisheries, and include streams inhabited by sensitive fish species. Because genetically pure YCT inhabit East Fork Mill Creek, it is considered a Class A stream according to implementation guidelines and the Travel Plan. Fish population objectives for Class A streams are to maintain or enhance the existing population level consistent with maintaining the integrity of individual populations and the distribution objectives for the protection of the species as a whole. Habitat management objectives are to provide habitat at a level which is at least 90 percent of potential habitat capability.

Along East Fork Mill Creek, the Non-federal lands proposed for exchange (Parcels A, B C, D, and E) include 230, 535, 260, 150 and 75 feet of stream respectively, for a total of 1,250 feet of riverbank (See **Table 3.1**, on next page).

Table 3.1: Bank distances for non-Federal parcels in East Fork Mill Creek	
Parcel Description	Riverine distance (feet)
Parcel A	230
Parcel B	535
Parcel C	260
Parcel D	150
Parcel E	75
TOTAL	1,250

Seven tracts of Federal land are proposed for exchange. There are no perennial or intermittent stream segments in Tract 43, so the aquatics issue is not relevant to that tract and is dismissed from further study. Tracts 45, 46, 47, 48 and 49 are located along East Fork Mill Creek and adjoin the stream. The stream flows through Tract 44, so there is north and south bank along its length. Tracts 44, 45, 46, 47, 48 and 49 include approximately 1740 (2 x 870), 370, 865, 345, 20, and 1650 feet of stream bank respectively, totaling 4,990 feet of stream bank. A short reach of Upper Sage Creek from its confluence with East Fork Mill Creek upstream is also included in Tract 49. (See **Table 3.2**).

Table 3.2: Bank distances for Federal tracts in East Fork Mill Creek	
Tract Description	Riverine distance (feet)
Tract 43	0
Tract 44	870
Tract 45	370
Tract 46	865
Tract 47	345
Tract 48	20
Tract 49	1470 + 180 of Upper Sage Creek
TOTAL	4,990

Taylor Fork

There are no perennial, fish-bearing streams on Parcel F in the Taylor Fork area.

3.8 Wildlife (Issue 3)

3.8.1 Laws, Regulations, Policy, and Direction

The NFMA requires Federal agencies to provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives (16 USC 1604(g)(3)(B)). The ESA mandates that Federal agencies ensure that any action authorized is not likely to jeopardize the continued existence of threatened or endangered species (50 CFR 402 Section 7). FSM 2670.32 requires that the Forest Service avoid or minimize impacts to Sensitive Species. If impacts cannot be avoided, the agency must analyze the significance of potential adverse effects on sensitive species populations or habitat

within the area of concern. The Migratory Bird Treaty Act (16 USC 703-712) implements various treaties and conventions for the protection of migratory birds. Presidential Executive Order 13186 requires agencies to ensure that environmental analyses evaluate the effects of Federal actions and agency plans on migratory birds, with emphasis on species of concern.

The Forest Plan contains goals to provide habitat for viable populations of all indigenous wildlife species, provide sufficient habitat for recovered populations of threatened and endangered species, to prevent any human-caused grizzly bear losses, and maintain or improve forage resources (II-1). Forest Plan objectives include management of wildlife habitat to emphasize forage and cover needs on big game winter range, providing for vegetative diversity in order to meet the needs of non-game and small game species, and maintenance of adequate security habitat for big game through management of hiding cover and roads (II-4). Forest-wide standards include coordinating management of wildlife resources with private landowners; managing big game winter range to meet forage and cover needs and to provide for increases in elk and deer populations; emphasizing management of special and unique wildlife habitat features such as wallows, licks, and riparian areas; maintaining essential habitat for sensitive species; and evaluating potential impacts to threatened and endangered species; and consulting with the US Fish and Wildlife Service when necessary (II-18).

A Forest Plan Amendment for Canada lynx provides specific direction based on a conservation strategy for this species. The Lynx Amendment (No. 46) incorporates conservation measures from the Northern Rockies Lynx Management Direction (NRLMD) FEIS into the Forest Plan. Direction contained in the NRLMD pertinent to this proposal includes the following:

- Objective ALL O1: Maintain or restore lynx habitat connectivity within and between LAUs and in linkage areas.
- Guideline HU G7: New permanent roads should not be built on ridge tops or saddles, or in areas identified as important for lynx habitat connectivity.
- Objective LINK O1: In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.
- Guideline LINK G1: NFS lands should be retained in public ownership.

3.8.2 Affected Environment

The following summary of wildlife and habitat resources of the lands proposed for exchange is based on the Wildlife Specialist Report – Snowy Range Ranch Land Exchange (Dixon 2009).

East Fork Mill Creek

The Federal tracts include montane forested areas, primarily Douglas-fir and lodgepole pine mix, with interspersed small meadows, and forested riparian areas along East Fork Mill Creek. The Non-federal parcels are forested/riparian habitat along East Fork Mill Creek, including the confluence of Sage Creek and Upper Sage Creek with East Fork Mill Creek. The Non-federal parcel in the Taylor Fork is primarily open meadow, dominated by grasses and sage, with a number of small wet pockets. Scattered lodgepole pines are the only trees on this parcel.

All the lands in this exchange in East Fork Mill Creek include valuable habitat for a wide range of species including big game, small mammals, and bird species.

Threatened and Endangered Species

The Grizzly Bear had been listed as threatened in the Greater Yellowstone Area but was delisted in 2007 due to steady increases in population. On September 21, 2009, however, a ruling of the Federal District Court vacated that delisting and restored the Grizzly Bear to threatened status throughout the Greater Yellowstone Area (Greater Yellowstone Coalition v. Servheen, 07-CV-134-DWM (D. Mt.)). This order responded to a petition that claimed the bear's status is uncertain for a range of reasons, including decimation of whitebark pine, the seeds of which are an important element of the bear's diet.

All the lands considered for exchange are within an area considered occupied by grizzly bears, although sighting of grizzly bears have been rare in the East Fork Mill Creek area.

Canada lynx are considered forest carnivores due to their strong association with dense boreal forest habitats. On the Gallatin National Forest, primary lynx habitat is mapped as cool, moist, coniferous forest types dominated by subalpine fir, spruce and lodgepole pine, generally within the elevation range between 6,000 and 8,800 feet. However, it is also recognized that secondary habitat types such as moist Douglas-fir, small meadows, shrub lands and riparian corridors adjacent to and intermixed with forested lynx habitat may provide habitat for lynx prey species.

All lands identified for exchange are located within the Greater Yellowstone Area critical habitat unit for Canada lynx (Federal Register, 2009). The parcels identified for exchange are below the lower elevation cutoff for primary lynx habitat (6,000 feet). However, these parcels may provide secondary habitat due to their proximity to primary lynx habitat in surrounding areas, and/or their ability to provide connectivity and potential travel routes between contiguous blocks of lynx habitat. Forested riparian stringers along East Fork Mill Creek may also provide habitat for alternate lynx prey species such as grouse and red squirrels.

Forest Service Sensitive Species

The gray wolf, bald eagle and peregrine falcon were all previously protected under the ESA. As populations recovered, these species were removed from the Endangered Species List ("delisted") and automatically added to the Forest Service Sensitive Species List. Other sensitive species are those identified by the Regional Forester for which population viability is of concern, as evidenced by current or predicted downward population trends or decline in habitat capability.

Gray wolves are habitat generalists, and make use of a wide variety of habitat types throughout the course of their lives. Management emphasis for gray wolves is directed at maintaining sustainable populations of wolf prey species, primarily ungulates. Maintaining the health and productivity of big game winter range is key to managing for wolves. Wolves are present in the Absaroka mountain range. East Fork Mill Creek provides high quality habitat for big game species, including big game winter range. South-facing slopes on the north side of East Fork

Mill Creek provide some winter range for elk and deer, and riparian habitat along the creek provides winter range for moose.

Bald eagles were delisted under the ESA in 2007. They are typically associated with large lakes (>80 acres) and major river courses (USDI 1994), and feed primarily on fish and carrion. There are no known bald eagle nests, and no suitable nesting habitat within any of the lands identified for exchange. Bald eagles are known to winter along the Yellowstone River Corridor, and may venture into the Mill Creek drainage in search of carrion on big game winter range.

The peregrine falcon is a predatory bird that feeds almost exclusively on other avian species. Peregrines nest in cliff and rock formations typically associated with hydrographic features such as rivers and lakes. Riparian habitat and open meadows are preferred hunting areas. There are no known peregrine nest sites in the vicinity of SRR, although there is suitable habitat in the area.

The wolverine is a mid-sized forest carnivore, which tends to occupy habitat at higher elevations in relatively secluded areas. Wolverines occur at naturally low densities throughout their range, and are known to occur in the Absaroka Mountain Range. Although they typically prefer to stay at higher elevations year round, wolverines are capable of long range movements, and will traverse lower elevation areas during long range dispersals. Wolverines are opportunistic omnivores with a generalist foraging strategy that includes scavenging on carrion, feeding on berries and insect larvae, and direct predation of small, medium and large mammals and birds (Banci 1994: 113). Reproductive habitat for wolverines occurs at relatively high elevations, in mature and old growth forest as well as large boulder talus fields and high mountain cirques (Copeland 1996: 94-95). The SRR area is in lower elevation habitat, most likely to be used by wolverines during dispersal movements. None of the lands identified for exchange contain high quality reproductive habitat for wolverines.

The western big-eared bat occurs in a variety of habitats, although its distribution is strongly correlated with the availability of suitable roost sites. Caves, rocky outcrops and abandoned mine shafts serve as daytime roosts and winter hibernacula (Kunz and Martin 1982). Bats will also occasionally occupy buildings, but high temperatures and low humidity limit the utility of buildings as long term roost sites (Genter 1989: 103). Female bats congregate in the warmer areas of the roost to form maternal colonies in spring (Finch 1992: 17). Moths make up the primary prey of the western big-eared bat, and forest edges are often used as foraging habitat (Streubel 1989: 73). There are no known caves, rocky outcrops or abandoned mine shafts that could serve as bat roosts on any of the lands identified for exchange. The unoccupied cabin on Parcel B could serve as a temporary roost site for western big-eared bats. Lands proposed for exchange may provide foraging habitat for bats, particularly those located along East Fork Mill Creek as these are associated with forest edge.

Flammulated owls show a strong preference for yellow pines, particularly Ponderosa, for nesting habitat, although dry, open Douglas-fir may be used as well. Flammulated owls feed primarily on invertebrate species gleaned from vegetation, and often select open forested stands with low stem density, as well as forest-grassland ecotones as foraging habitat (McCallum 1994; 22, 24).

The dry, open Douglas-fir habitat in Tracts 43 and 44 near SRR could provide suitable, although not ideal, nesting and foraging habitat for flammulated owls.

Black-backed woodpeckers occupy forested habitats that contain high densities of recently dead or dying trees, which provide an insect prey base. Black-backed woodpeckers are typically found in three types of forested habitat: post fire areas that have burned within one to six years, areas with extensive insect outbreaks causing widespread tree mortality, and natural disturbance areas such as wind throw, ice damage or other occurrences that produce patches of dead trees. Of these potential habitat types, recent burns contain the highest concentrations of black-backed woodpecker prey for the longest period of time (USDA 2007a). There are no recent forest fires on any lands identified for exchange, and at this time, low to moderate insect activity. Large fires have occurred in the vicinity of SRR, including the South Pine Creek, Jungle, Passage Falls and Big Creek fires, which burned in 2006, and Wicked Creek, which burned in 2007. With the availability of this burned habitat nearby, it is highly unlikely that black-backed woodpeckers would be attracted by any insect activity on the Non-federal parcels proposed for exchange.

Harlequin ducks nest along remote, swift-moving, clear mountain streams with dense shrub habitat along the stream banks. Breeding habitat is typically located away from concentrated human use areas (Clark et al. 1989:61). East Fork Mill Creek and Mill Creek may provide suitable nesting habitat for harlequin ducks, although nesting has not been documented for harlequin ducks on either stream. Further, there is little shrubby vegetation on stream segments within or adjacent to proposed exchange parcels.

Management Indicator Species (MIS)

Note: Bald eagle is designated an MIS, but is addressed as a Forest Service Sensitive Species above. MIS serve as surrogates to assess impacts to a suite of species with similar habitat needs.

Northern goshawks are the Forest Plan indicator species for lower elevation, relatively warm, dry mature and old growth forest types (USDA 1987: II-18). Goshawks use large landscapes, integrating a diversity of vegetation types over several spatial scales to meet life cycle needs. Nest areas are typically characterized by mature forest with large trees, high canopy closure, and open understory. The goshawk is considered a generalist, opportunistic predator; therefore foraging areas are heterogeneous and may include mature forest components as well as a mix of other forest and non-forest components such as sagebrush, grasslands, riparian and agricultural areas (Squires and Kennedy 2006: 21, 23, 31). None of the lands identified for exchange contain high quality nesting habitat, but there is suitable goshawk nesting habitat nearby, such that any of the lands proposed for exchange could provide foraging habitat. There are currently no known occupied goshawk nests within foraging distance of proposed exchange parcels.

American martens (also called pine marten) are the Forest Plan indicator species for higher elevation, relatively cool, moist mature and old growth forest types (USDA 1987: II-18). Martens are found in coniferous habitat throughout the Gallatin Forest, although they tend to be more abundant in cool, moist types. Martens show a strong preference for late-successional forest types with complex structure and ample coarse, woody debris on and near the ground (Coffin et al. 2002). Although their diet is varied, the marten's primary prey species, red-backed

vole and red squirrel, are most abundant in mature and old growth mesic forest habitat (Buskirk and Ruggiero 1994: 21). The SRR parcels are not high quality marten habitat, but may occasionally be crossed by martens moving between patches of suitable habitat nearby.

Elk are identified in the Forest Plan as indicator species for big game (USDA 1987: II-18) under the premise that managing habitat for elk will provide suitable habitat for multiple big game species. Moose, deer and elk are native big game species that are likely to occur in the areas proposed for exchange. The Non-federal parcels likely see the highest big game use in spring and fall, as animals move between winter range on the lower slopes of the Absaroka Range and summer range at higher elevations. SRR is close to calving and fawning habitat. Riparian habitat, such as that found along East Fork Mill Creek, is important for big game species in that it provides cover, forage, water and identifiable travel routes.

Migratory Bird Species

Migratory bird species are an extremely diverse group and as such, occupy all types of habitat available across the Gallatin National Forest. Many migratory bird species use habitat within the Gallatin Forest as breeding grounds, while others breed in more northern climes and winter here. Some species are habitat specialists and are relatively restricted to certain cover types such as grass, shrub, riparian, or forest interior habitat. Others are habitat generalists and can occupy a wide variety of cover types. Some bird species are extremely sensitive to habitat modification and human disturbance, particularly in breeding areas, while others are much more tolerant of human activities and might even benefit from habitat modifications resulting from human use. Migratory bird species of concern include Threatened and Endangered species, Forest Service sensitive species, and other species that warrant concern based on declining habitat and/or populations. Other than sensitive species and management indicator species addressed separately in this report, species of concern that could be present in areas proposed for land exchange include: Brewer's sparrow, olive-sided flycatcher, Cassin's finch, Clark's nutcracker, great gray owl, and Swainson's hawk. Species of concern were determined by consulting MT FWP, and Montana Natural Heritage Program lists.

Olive-sided flycatchers and Cassin's finch are both associated with recently burned forest, but are also relatively common in logged areas, including partial harvest treatments (Hutto and Young 1999: 25, 66). The SRR parcels do not contain preferred (e.g. recently disturbed with fire or harvest) forest types, but olive-sided flycatchers and Cassin's finch are occasionally found in naturally open forest, such as that contained in tracts 43 and 44 near the SRR. Clark's nutcracker is associated with higher elevation, dry, rocky forest types (USDA 1991: 305), although it is commonly detected throughout most coniferous forest types on the Gallatin. The SRR parcels do not provide high quality nesting or foraging habitat for Clark's nutcrackers.

Great gray owls nest in the more open structure associated with drier, montane coniferous or deciduous forest. Nest sites are generally located close to open areas used for hunting. Foraging habitat consists of relatively open, grassy areas including natural meadows, logged areas, and open forests (Duncan and Hayward 1994: 164). The Non-federal parcels provide potential nesting and foraging habitat for great gray owls. Swainson's hawks typically nest in lowland river bottom habitat that is not generally found on NFS lands, but rather occurs in the rural and

agricultural land beyond the Forest boundary. They commonly hunt in agricultural fields and open meadows. Lands identified for exchange are a considerable distance from high quality nesting habitat in the Gallatin and Yellowstone River valleys. Although Swainson's hawks may occasionally venture into or near exchange parcels while hunting during the breeding season, more likely their presence in these areas would occur at stopover sites during seasonal migrations.

Taylor Fork

The Non-federal parcel in the Taylor Fork is open meadow, dominated by grasses and sage, with small wet pockets, and scattered lodgepole pine trees. The parcel contains valuable habitat for a wide range of species including big game, small mammals and numerous bird species.

Threatened and Endangered Species

The Grizzly Bear had been listed as threatened in the Greater Yellowstone Area but was delisted in 2007 due to steady increases in population. On September 21, 2009, however, a ruling of the Federal District Court vacated that delisting and restored the Grizzly Bear to threatened status throughout the Greater Yellowstone Area (Greater Yellowstone Coalition v. Servheen, 07-CV-134-DWM (D. Mt.)). This order responded to a petition that claimed the bear's status is uncertain for a range of reasons including decimation of white bark pine. The seeds of white bark pine are an important element of the bear's diet. The Taylor Fork drainage is known as high quality grizzly bear habitat, and contains some of the highest grizzly bear densities on the Gallatin National Forest.

Forest Service Sensitive Species

The gray wolf, bald eagle and peregrine falcon were all previously protected under the Endangered Species Act. As populations recovered, these species were removed from the Endangered Species List ("delisted") and automatically added to the Forest Service Sensitive Species List. Other sensitive species are those identified by the Regional Forester for which population viability is of concern, as evidenced by current or predicted downward population trends, or decline in habitat capability.

Gray wolves are habitat generalists, and make use of a wide variety of habitat types throughout the course of their lives. Management emphasis for gray wolves is directed at maintaining sustainable populations of wolf prey species, primarily ungulates. Maintaining the health and productivity of big game winter range is key to managing for wolves. Wolves are present in the Madison Mountain Range. The Taylor Fork area provides high quality habitat for big game species, including big game winter range. The private parcel in Taylor Fork that would be acquired for public use provides year round habitat for big game, but most notably this area contains high quality winter range.

Bald eagles were delisted under the ESA in 2007. They are typically associated with large lakes (>80 acres) and major river courses (USDI 1994: 2), and feed primarily on fish and carrion. There are no known bald eagle nests, and no suitable nesting habitat within any of the lands

(public or private) identified for exchange. Bald eagles are known to winter along the Gallatin River Corridors, and may venture into the Taylor Creek drainage in search of carrion on big game winter range.

The peregrine falcon is a predatory bird that feeds almost exclusively on other avian species. Peregrines nest in cliff and rock formations typically associated with hydrographic features such as rivers and lakes. There is a known peregrine falcon aerie within foraging distance of the Taylor Fork parcel. The open grassy nature of this parcel, along with its proximity to riparian habitat along Taylor Fork Creek present good foraging habitat for peregrine falcons.

The wolverine is a mid-sized forest carnivore, which tends to occupy habitat at higher elevations in relatively secluded areas. Wolverines occur at naturally low densities throughout their range, and are known to occur in the Madison Mountain Range. Although they typically prefer to stay at higher elevations year round, wolverines are capable of long range movements, and will traverse lower elevation areas during long range dispersals. Wolverines are opportunistic omnivores with a generalist foraging strategy that includes scavenging on carrion, feeding on berries and insect larvae, and direct predation of small, medium and large mammals and birds (Banci 1994: 113). Reproductive habitat for wolverines occurs at relatively high elevations, in mature and old growth forest as well as large boulder talus fields and high mountain cirques (Copeland 1996: 94-95). Taylor Fork contains high quality big game winter range. The Non-federal land in the Taylor Fork is at lower elevation than typical wolverine habitat, but wolverines might occasionally wander lower onto winter range in search of carrion.

The western big-eared bat occurs in a variety of habitats, although its distribution is strongly correlated with the availability of suitable roost sites. Caves, rocky outcrops and abandoned mine shafts serve as daytime roosts and winter hibernacula (Kunz and Martin 1982). Bats will also occasionally occupy buildings, but high temperatures and low humidity limit the utility of buildings as long term roost sites (Genter 1989: 103). Female bats congregate in the warmer areas of the roost to form maternal colonies in spring (Finch 1992: 17). Moths make up the primary prey of the western big-eared bat, and forest edges are often used as foraging habitat (Streubel 1989: 73). There are no known caves, rocky outcrops or abandoned mine shafts that could serve as bat roosts on the Non-federal parcel identified for exchange. The unoccupied cabin on Parcel F could serve as temporary roost sites for western big-eared bats.

The trumpeter swan is the largest waterfowl species in the world. Its nesting habitat includes marshes, shallow lake waters, beaver ponds, and occasionally oxbows or slow-moving river backwaters. Breeding habitat is typically secluded, and must provide a large enough open water body for take-off and landings. Wintering habitat includes slow-moving rivers and streams that remain ice-free and provide emergent vegetation year-round (USDA 1995: 15-17). Taylor Fork Creek contains some oxbows adjacent to Parcel F that could provide nesting habitat for swans, although swan nesting has not been documented in the area. Trumpeter swan nesting has been documented on Albino Lake, which is just over a mile from Parcel F, but swans have not occupied Albino Lake in recent years (A. Pils, pers. comm. 2009).

Management Indicator Species (MIS)

Note: Bald eagle is designated an MIS, but is addressed as a Forest Service Sensitive Species above. MIS serve as surrogates to assess impacts to a suite of species with similar habitat needs.

Northern goshawks are the Forest Plan indicator species for lower elevation, relatively warm, dry mature and old growth forest types (USDA 1987: II-18). Goshawks use large landscapes, integrating a diversity of vegetation types over several spatial scales to meet life cycle needs. Nest areas are typically characterized by mature forest with large trees, high canopy closure, and open understory. The goshawk is considered a generalist, opportunistic predator; therefore foraging areas are heterogeneous and may include mature forest components as well as a mix of other forest and non-forest components such as sagebrush, grasslands, riparian and agricultural areas (Squires and Kennedy 2006: 21, 23, 31). None of the lands identified for exchange contain high quality nesting habitat, but there is suitable goshawk nesting habitat nearby, such that any of the lands proposed for exchange could provide foraging habitat. There are currently no known occupied goshawk nests within foraging distance of proposed exchange parcels.

Elk are identified in the Forest Plan as indicator species for big game (USDA 1987: II-18) under the premise that managing habitat for elk will provide suitable habitat for multiple big game species. Moose, deer and elk are native big game species that are likely to occur in the areas proposed for exchange. While there may be some big game use on the exchange lands year round, the Taylor Fork parcel is notable as high quality winter range, whereas summer range for most big game species is generally found at higher elevations in the Taylor Fork drainage. The land considered for exchange in the Taylor Fork is close to calving and fawning habitat. Riparian habitat, such as that found along Taylor Fork, is important for big game species in that it provides cover, forage, water and identifiable travel routes.

Migratory Bird Species

Migratory bird species are an extremely diverse group and as such, occupy all types of habitat available across the Gallatin National Forest. Many migratory bird species use habitat within the Gallatin Forest as breeding grounds, while others breed in more northern climes and winter here. Some species are habitat specialists and are relatively restricted to certain cover types such as grass, shrub, riparian, or forest interior habitat. Others are habitat generalists and can occupy a wide variety of cover types. Some bird species are extremely sensitive to habitat modification and human disturbance, particularly in breeding areas, while others are much more tolerant of human activities and might even benefit from habitat modifications resulting from human use. Migratory bird species of concern include Threatened and Endangered species, Forest Service sensitive species, and other species that warrant concern based on declining habitat, declining populations, or both. Other than sensitive species and management indicator species addressed separately in this report, species of concern that could be present in areas proposed for land exchange include: Brewer's sparrow, olive-sided flycatcher, Cassin's finch, Clark's nutcracker, great gray owl, and Swainson's hawk. Species of concern were determined by consulting MT FWP and Montana Natural Heritage Program lists.

Brewer's sparrow nests in open, dry, sage shrub fields (USDA 1991: 466). The Taylor Fork parcel contains suitable nesting habitat for Brewer's sparrow. Clark's nutcracker is associated with higher elevation, dry, rocky forest types (USDA 1991: 305), although it is commonly

detected throughout most coniferous forest types on the Gallatin. The Taylor Fork area site does not provide high quality nesting or foraging habitat for Clark's nutcrackers.

Great gray owls nest in the more open structure associated with drier, montane coniferous or deciduous forest. Nest sites are generally located close to open areas used for hunting. Foraging habitat consists of relatively open, grassy areas including natural meadows, logged areas, and open forests (Duncan and Hayward 1994: 164). The Taylor Fork parcel would only serve as foraging habitat. Swainson's hawks typically nest in lowland river bottom habitat that is not generally found on NFS lands, but rather occurs in the rural and agricultural land beyond the Forest boundary. They commonly hunt in agricultural fields and open meadows. Lands identified for exchange are a considerable distance from high quality nesting habitat in the Gallatin and Yellowstone River valleys. Although Swainson's hawks may occasionally venture into or near exchange parcels while hunting during the breeding season, it is more likely that their presence within these areas would occur at stopover sites during seasonal migrations.

3.9 Encroachments on Federal Lands (Issue 4)

3.9.1 Laws, Regulations, Policy, and Direction

Forest Service Handbook for Exchanges requires identification of any ownership interests or other encumbrances that might make a proposed land exchange not viable (FSH 5509.11, 32.42).

3.9.2 Affected Environment

East Fork Mill Creek

Federal Tract 43 (Map A) contains several "improvements" related to the adjacent private residence of Bill LaWarre. These include portions of a lawn, septic system, and driveway. Federal Tract 48 (Map A) contains a buried retaining wall that is part of a private hydroelectric facility owned and operated by Snowy Range Ranch. These improvements are not authorized by the Forest Service and are not appropriate uses on NFS lands.

Taylor Fork

No encroachments exist on the lands affected by the proposed land exchange.

3.10 Recreation and Public Access (Issue 5)

3.10.1 Laws, Regulations, Policy, and Direction

The Forest Plan contains direction to provide for a broad spectrum of recreation opportunities in a variety of Forest settings (1987: II-1). The Forest Plan recognizes objectives for recreation settings by incorporating the Recreation Opportunity Spectrum (ROS), which provides a framework for stratifying and defining classes of outdoor recreation environments, activities, and

experience opportunities (1987: II-2). The Forest Plan specifically identifies as objectives activities that will be managed: (1) to provide for users' safety, (2) so that existing recreational hunting opportunities will be maintained, (3) so that recreation trails will provide safe public access, and (4) to continue the cabin rental program (1987: II-2-3).

The Gallatin National Forest Travel Plan (2006) contains language updating and further defining the forest-wide goals, objectives and standards for recreation. The Travel Plan recognizes the goal of "providing for a variety of recreation opportunities on the road and trail system that allows for the enjoyment of the Forest's backcountry, wilderness, rivers, lakes, topography, wildlife, snow and historical assets" (I-1).

Goals, objectives and standards are further defined in the Travel Plan by specific Travel Planning Areas. The proposed land exchange includes parcels in two Travel Planning Areas: Mill Creek and Taylor Fork.

The goals for Mill Creek Travel Planning Area include for summer recreation use:

"...provide, but separate, opportunities for both motorized and non-motorized summer recreation use. Emphasize passenger vehicle travel along the existing network of open roads either for pleasure driving or to provide access to specific destinations. Emphasize hiking and horseback riding on area trails and ATV/motorcycle use in the Chico Peak area."

The goals for Mill Creek Travel Planning Area include for winter use:

"...provide opportunities for snowmobiling, cross-country skiing and snowshoeing" (II-136).

The goals for Taylor Fork Travel Planning Area include for summer recreation use:

"...provide opportunities for a variety of summer motorized and non-motorized recreation use including ATV and motorcycle riding, pleasure driving, hiking and horseback riding."

And for winter use:

"...provide opportunities for snowmobiling on groomed and ungroomed routes" (II-175).

Objectives include achieving the goals stated above through the route-by-route-decisions made through the Travel Plan. Future proposed changes to the uses specified in the Travel Plan will be done in consideration of the targeted recreation setting to be provided (II-136 and II-175).

The targeted ROS for summer recreation in this area of Mill Creek is "Rural" near the trailhead and "Semi-primitive Non-motorized" west of the trailhead up to the wilderness boundary. The targeted ROS for winter recreation is "Rural" near the trailhead and "Semi-primitive Non-motorized" west of the trailhead up to the wilderness boundary.

The targeted ROS for summer recreation for the area including the Taylor Fork parcel is “*Roaded Natural*”. For winter recreation, the ROS is “*Semi-primitive Non-motorized*” (Recreation Opportunity Spectrum maps, October 2006).

Rural settings are characterized as natural environments that are culturally modified yet attractive. Backdrop modifications range from obvious to dominant. Self reliance on outdoor skills is of little importance, and there is little challenge and risk. Interaction between and evidence of other users may be high. The settings can be characterized as altered landscapes with natural appearing backdrop. The sights and sounds of human activity are readily evident.

Roaded Natural settings are generally characterized as mostly natural-appearing environments with moderate evidence of the sights and sounds of man. Resource modification and utilization practices are evident but harmonize with the natural environment.

Semi-Primitive Motorized settings are predominately natural-appearing environments where there is often evidence of other users and moderate probability of solitude. Motorized uses are present. Vegetation alterations are very small in size and number and are widely dispersed and visually subordinate.

Semi-Primitive Non-motorized settings are predominately natural- appearing environments where there is often evidence of other users and moderate probability of solitude. Motorized uses are not present. Vegetation alterations are very small in size and number and are widely dispersed and visually subordinate.

3.10.2 Affected Environment

The following summary of recreational potential of the lands proposed for exchange is based upon the Recreation Specialist Report prepared for the Snowy Range Ranch Land Exchange (Urie and Davies, 2009).

East Fork Mill Creek Area

The East Fork Mill Creek drainage is “roaded” and also includes several Forest Service trails. The area is popular with dispersed campers, horseback riders, hikers, backpackers and hunters. During winter, the area receives some use by skiers and snowshoers. The Gallatin National Forest Travel Plan (2006) identifies a set number of motorized routes in the drainage. All other routes historically used by motorized users will be closed as the Travel Plan is implemented.

National Forest System Trails or Road systems currently used by recreationists in the project area are listed in **Table 3.3**, on the next page:

Table 3.3: NFS Trails or Roads used for recreation, East Fork Mill Creek Area	
Trail/Road	Description
East Fork Mill Creek Trail No. 51	This trail begins at the East Fork Mill Creek trailhead at the east end of East Fork Mill Creek Road No, 3280. The trail travels east along the south boundary of the SRR for approximately 2 miles. The distance between the private land boundary and the trail varies from less than 200 feet at the west end to more than 1000 feet. The trail is designed for hikers and horses. Hikers, horses, and mountain bikes are authorized to use the first quarter mile of this trail to the junction with Highland Trail No. 69. Beyond the junction with Trail No. 69, Trail No. 51 is closed to mountain bikers. There is a bulletin board and hitch rails at the trailhead.
Highland Trail No. 69	This trail begins approximately 0.25 miles east along East Fork of Mill Creek Trail No. 51 from the East Fork Mill Creek trailhead. The trail proceeds southeast away from the SRR towards Anderson Ridge. Hikers, horses, and mountain bike riders are authorized to use this trail. The trail was designed for hikers and horses.
East Fork Mill Creek Road No. 3280	This road begins at the junction with Mill Creek County Road and continues east to the Snowy RRR. This road to access the East Fork Mill Creek trailhead and drainage.

Dispersed camping occurs at several sites along East Fork Mill Creek Road. These sites are located a quarter mile or more west of SRR. Camping in the area is most popular from June through to November hunting seasons.

During winter months, some backcountry skiers and snowshoers use the East Fork of Mill Creek Trail, the Highland Trail and neighboring Knowles Peak.

Two outfitters use the East Fork of Mill Creek Trail and Trailhead. Both provide horseback rides in the summer and hunting in the fall months. Currently there are two recreational residences in the East Fork Mill Creek drainage. Both are located along East Fork of Mill Creek Road, approximately 1 mile west of SRR.

Taylor Fork Area

The Taylor Fork drainage is lightly roaded. Portions of the Taylor Fork are within the Cabin Creek Wildlife Management Area. This special designation allows some motorized use but only at the level it was allowed prior to its special designation in the 1980s. The overriding goal for this area is to preserve the existing high quality habitat for wildlife species, such as deer, elk, grizzly bear, and moose and native cutthroat trout.

There are several Forest Service motorized trails in the drainage that provide diverse motorized recreation opportunities. The upper end of the Taylor Fork Road leads to trailheads, such as Lightning Creek and Cache Creek. These trailheads provide access into the Lee Metcalf

Wilderness Area. Very little motorized use is permitted north of Taylor Creek, near Parcel F. Most motorized use trails are located south of Taylor Creek.

The Taylor Fork area is popular among dispersed campers, horseback riders, hikers, backpackers, mountain bikers, and hunters. During the winter the area receives moderate to high use by snowmobilers who access the Big Sky Trail, and high alpine areas in the upper basins between Buck Ridge to the North of Taylor Fork and the Cabin Creek area to the south. Snowmobilers currently use the Taylor Fork road to connect to the Big Sky Trail and the high alpine basins outside of wilderness areas. Winter use along the Taylor Fork Road will decrease when a new snowmobile trail is constructed from Sage Creek trailhead to the Cabin Creek Wildlife Management Area, as identified in the Forest Travel Plan (Dec. 2006).

National Forest System Trails or Road systems currently used by recreationists in the Taylor Fork area are listed in **Table 3.4** below:

Table 3.4: Trails and Roads used for recreation, Taylor Fork Area	
Trail/Road	Description
Meadow Creek Cutoff Trail No. 223	This trail begins near Taylor Fork Road No. 134 and Taylor Creek, with a ford crossing of Taylor Creek near the trailhead. This stream crossing is difficult for horses and almost impossible for hikers and mountain bikers in May and June when water levels are high. It is used more in mid summer through the fall when stream flows are low. The main uses of this trail are day rides or day hikes (connecting to Trail No. 33, Albino Lake) or longer overnight trips into the following areas; Cinnamon Mountain, Upper Buck Creek, Lizard lakes, Yellow Mule Cabin, and Upper West Fork of the Gallatin Basin near Big Sky.
Taylor Fork Road No. 134	This road begins at U.S. Highway 191 and runs east to access the Taylor Fork, the Cache Creek and the Buck Creek drainages.

Dispersed camping occurs at many sites designated along Taylor Fork Road No. 134. The rest of the Taylor Fork drainage is open to dispersed camping from motor vehicles at non-designated sites within 300 feet of existing motorized roads and trails. Camping in the area is most popular from June through to November, with the greatest use occurring during the fall hunting season.

No developed recreation opportunities exist in the Taylor Fork drainage near Parcel F. No developed campgrounds or organizational camps are located in these drainages.

3.11 Threatened, Endangered, or Sensitive Plant Species

3.11.1 Laws, Regulations, Policy, and Direction

The ESA mandates that Federal Agencies such as the Forest Service ensure that any action authorized is not likely to jeopardize the continued existence of Federally listed threatened or endangered species (50 CFR 402 Section 7).

FSM 2670.32 requires that the Forest Service avoid or minimize impacts to Sensitive Species.

3.11.2 Affected Environment

Federal tracts proposed for exchange were surveyed for sensitive plant species in June 2008. The tracts surveyed contained potential habitat for small yellow lady's slipper, small-flowered columbine, musk root and rattlesnake plantain. No individuals or populations of sensitive plant species were found during these surveys (Dixon 2009).

3.12 Invasive Weeds

3.12.1 Laws, Regulations, Policy, and Direction

An Executive Order for Invasive Species directs agencies to control the spread of noxious weeds (EO13112, 1999). The Forest Service Manual (FSM 2080) requires that an invasive weeds risk assessment be completed for all projects. The Forest Plan directs the Forest to confine present invasive weed infestations and prevent establishment of new populations (II-28).

3.12.2 Affected Environment

East Fork Mill Creek

East Fork Mill Creek has scattered populations (moderate density) of hounds tongue, Canada thistle and cheatgrass. Once established at moderated densities levels, these weeds are almost impossible to eradicate. These species tend to grow in areas with full sunlight, not tolerant of shade, so are contained within the open non-forested areas. Most of the area surrounding SRR is forested, which will help to confine the weeds in this area (LaMont 2010).

Taylor Fork

There are no known infestations of invasive weeds on parcel F. (LaMont 2010).

3.13 Cultural Resources

3.13.1 Laws, Regulations, Policy and Direction

Section 106 of the Natural Historic Preservation Act requires Federal agencies to consider the potential effects of the action upon historic resources. The Forest Service Handbook for Land Exchanges requires identification of any cultural resources that may potentially be affected prior to executing a land exchange (FSH5409.13, 31).

3.13.2 Affected Environment

A cultural resources investigation of the lands considered for exchange found no cultural

resources (Allen 2008).

3.14 Visual Quality

3.14.1 Laws, Regulations, Policy, and Direction

The National Environmental Policy Act of 1969 codified the United States' responsibility to use all practicable means to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings" (Section 101 (b) 2).

In 2003, the Forest Service revised existing policy on visual quality, establishing a direction of aesthetic and scenery resources inventory and management. Forest Service Manual Amendment Number 2300-2003-1 established the following Objective for scenic resources: "*To manage National forest system lands to attain the highest possible quality of landscape aesthetics and scenery commensurate with other appropriate public uses, costs, and benefits*" (2380.20). Forest Service is policy to: "*[e]nsure scenery is treated equally with other resources*" (2380.3).

The Gallatin National Forest will not complete an inventory of aesthetic and scenery resources until the next update of its Forest Plan. Until that time, the current Forest Plan is the guidance document for management of visual resources. The Forest Plan established a Visual Quality Objective (VQO) for each MA (II-16). VQO is defined as:

"A desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape".

Preservation: Only ecological changes are allowed to alter the natural landscape.

Retention: Human activities are not evident to the casual Forest visitor.

Partial Retention: Human activities may be evident, but must remain subordinate to the characteristic landscape.

Modification: Human activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in middle-ground or background.

Maximum Modification: Human activity may dominate the characteristic landscape, but should appear as natural when viewed as background.

Enhancement: A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists (VI-43 & 44).

3.14.2 Affected Environment

East Fork Mill Creek

The Federal lands considered for exchange in this area include three MAs: 5, 6, and 11. Table 3.5 summarizes the ranges of VQO established in the Forest Plan for these MAs.

Table 3.5: Management Areas and Visual Quality Objectives - Federal lands.	
Management Area	Visual Quality Objective
5	Retention to Partial Retention
6	Retention to Partial Retention
11	Partial Retention to Modification

Beyond the consideration of VQO's established in the Forest Plan, another consideration is the prominence from viewing areas. The Federal tracts considered for exchange are small and generally occur in low areas of the landscape. They are not visible from any distance.

Taylor Fork

The lands surrounding Parcel F are assigned MA15. The VQO for MA 15 ranges from retention to partial retention. Parcel F is prominently visible to travelers on Taylor Fork Road No.134.

3.14 Hazardous Materials

3.14.1 Laws, Regulations, Policy, and Direction

The Comprehensive Environmental Response, Compensation, and Liability Act of December 11, 1980, as amended (94 Stat. 2767; 42 U.S.C. 9601, et seq.) requires Federal agencies to identify and disclose the presence of hazardous materials on Federal and Non-federal lands considered in a land exchange. The Forest Service Land Acquisition Handbook requires identification of any concerns related to hazardous materials (5904.13, 31).

3.14.2 Affected Environment

Forest staff conducted all appropriate screening for hazardous materials on all lands proposed for exchange. No physical or documentary evidence of any such materials was found (White, 2007).

3.15 County Revenues

3.15.1 Laws, Regulations, Policy, and Direction

Section 102 of NEPA requires that Federal agencies consider the potential impacts of their proposed actions upon the human environment. The regulations implementing NEPA define

“human environment” to include social and economic impacts when such impacts are interrelated with the environmental impacts of the proposed action (40CFR1508.14).

3.15.2 Affected Environment

East Fork Mill Creek

Two sources of revenue to Park County are germane to the proposed land exchange: property tax revenues associated with the Non-federal lands considered for exchange, and Federal Secure Rural Schools (SRS) payments to the county. SRS payments were created by the Secure Rural Schools and Community Self Determination Act of 2000. This law established a funding program to provide transitional assistance to rural counties affected by the decline in revenues from timber sales. Rural counties traditionally relied upon receipts from timber sales to supplement local funding of schools and roads. The original SRS program was scheduled to expire in 2006, but has twice been extended by Congress, most recently through 2011.

In 2008, tax payments to Park County on the SRR lands totaled approximately \$45,301, or \$453/acre. This reflects the rate of taxes on developed property. By comparison, in 2004 the tax payments on SRR lands to Park County (prior to substantial improvements on the property) were approximately \$6,370, or \$64/acre. In 2008, SRS payments to Park County totaled \$968,645 from the 842,082 acres of Federal lands within the county, or approximately \$1.15/acre.

Taylor Fork

In 2008, property tax payments on the Non-federal land in the Taylor Fork (Parcel F) totaled \$438.91, or approximately \$21.70/ acre. In 2008, Gallatin County received SRS payments of \$537,499 from 635,287 acres of Federal lands, or approximately \$0.85/acre.

3.16 Appraisals

The Federal and Non-federal lands have been appraised in accordance with federal standards. The appraisal reports were prepared by Clark Wheeler of Norman C. Wheeler & Associates. The date of value is November 2, 2010. The appraisal reports were approved on January 12, 2011 by Kimball Frome, RPRA, Forest Service Senior Review Appraiser. A minor Supplement to the appraisal report for the Non-federal lands was prepared and approved on March 30, 2011. These appraisal reports are valid for one year, or until November 1, 2011.

Based on the approved appraisal reports, the estimated total market value of the Federal lands is \$266,000, and the estimated total market value of the Non-federal lands is \$325,000.

The proposed exchange would be completed on the basis of equal market values. Of the total amount (21.39 acres) of offered Non-federal lands, 17.48 acres would be used to balance the exchange values. The remaining 3.91 acres of Non-federal lands would be donated by Weissman to the U.S.

Chapter 4

Environmental Consequences

Introduction

Chapter 4 provides an analysis of the environmental consequences that would result from implementing either alternative action. The analysis of impacts considers direct, indirect and cumulative effects of implementing each of the two alternatives (No Action and Proposed Alternative, *see also Section 2.4*). Direct effects would be caused by and occur at the same time and place as the initial cause of action (40 CFR 1508.25). Indirect effects (or secondary effects) also would be caused by the action, but occur later in time or are farther removed in distance. Cumulative effects would arise from incremental impacts of the Proposed Action in conjunction with effects of other past, present, and reasonably foreseeable future actions.

4.1 Common Aspects of the Analysis

The analysis of impacts in this section is organized similarly to Chapter 3, discussing impacts to each element of the effected environment in the same order as in Chapter 3. Chapter 4 focuses in greatest detail on those effects related to the important issues identified in Section 2.2. Other environmental effects are described briefly. Table 4.1 provides a summary comparison of the alternatives relative to the important issues. These issues relate to wetland and riparian areas, fisheries, wildlife, encroachments on NFS lands, and access.

The analysis area includes the lands considered for exchange in the East Fork Mill Creek and Taylor Fork areas and the adjacent lands within one mile. The analysis area may extend beyond the National Forest boundary, particularly the analysis of cumulative effects. Forest Service resource specialists have identified other projects or programs to consider as cumulative actions with this proposal. The general project area and specific analysis areas include NFS, state and private lands. The cumulative effects analyses consider projects or activities completed or proposed for the period 1995 through 2010.

This EA complies with management direction in the Forest Plan. Forest resource specialists have prepared specialist reports to analyze the important issues and alternatives. The specialist reports are available in the project file.

4.2 Wilderness and Roadless Areas

4.2.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

Under this alternative, no lands would be exchanged. There would be no impact to wilderness or roadless areas in the East Fork Mill Creek area. Taylor Fork Parcel F is within the Madison

Roadless Area and it would remain private land. The potential for wilderness designation of the Madison Roadless Area would be reduced due to the private in-holding and associated risk of future development.

Direct and Indirect Effects of Proposed Action

Indirect effects to the wilderness resource can be defined as physical and detectable changes to the landscape outside wilderness which would affect wilderness character such as remoteness, opportunities for solitude, natural integrity and naturalness. Indirect effects would also cause changes to the area's setting, including ambiance and sense of place. These changes can be caused by the modification to the landscape such as building construction and road construction.

Since one Federal tract proposed for conveyance in the East Fork Mill Creek area is immediately adjacent to the A-B Wilderness, indirect impacts to the wilderness character could result, if this land were developed after conveyance. This potential for indirect effects to the wilderness character is not precedent setting, however, as the Federal tracts proposed for exchange adjacent to the A-B Wilderness also abut existing private land.

The parcels in the East Fork Mill Creek area are located outside of inventoried roadless areas and thus their exchange would have no direct or indirect effect on roadless areas.

The Proposed Action would transfer Parcel F in the Taylor Fork into public ownership, removing a private in-holding from the Madison Roadless Area. This would have a positive direct effect to the naturalness, solitude, sense of remoteness and natural integrity of the Madison Roadless Area. No indirect effect to the Lee Metcalf Wilderness would occur from the proposed exchange in the Taylor Fork, due to the distance between Parcel F and the wilderness boundary (5 miles), and because no new homes or roads would be built on Parcel F or on the adjacent NFS lands.

4.2.2 Cumulative Effects

Past, Present and Reasonably Foreseeable Actions and Effects

The Federal tracts proposed for exchange in the East Fork Mill Creek area are small. After the exchange, Weissman plans to work with Park County to "assemble" the small parcels into one property. Much of the development of the SRR has already occurred, and little or no further development of the SRR is anticipated. Weissman has expressed an interest in placing a conservation easement on the SRR after the exchange and the assemblage of lands.

In the Taylor Fork area, the Forest Service, MT FWP and conservation partners have actively pursued land acquisition and consolidation in this critical area. Parcel F in the Taylor Fork is one of few remaining private in-holdings remaining after land acquisition in the area.

Cumulative Effects of No Action

There would be no cumulative effects of the No Action alternative in the East Fork Mill Creek area. Under No Action, Parcel F in the Taylor Fork would remain in private ownership, and

pressure for development of this parcel would be likely, with associated requests for access. This would adversely affect the character of the Madison Roadless area.

Cumulative Effects of Proposed Action

In the East Fork Mill Creek area, the proposed exchange is not expected to result in additional impacts to wilderness or roadless areas. Public acquisition of Parcel F in the Taylor Fork would have a positive cumulative effect to the apparent naturalness, solitude, sense of remoteness, and natural integrity of the Madison Roadless Area. The Forest Service would manage the acquired land under the Forest Plan (*II-16*) and assign foreground views in this portion of the Taylor Fork a VQO of Retention, meaning that human activities are not evident to the casual Forest visitor.

4.3 Geology and Minerals

4.3.1 Direct and Indirect Effects

Due to the low potential of finding commercial mineral resources on any of the Federal or Non-federal lands in the proposed exchange, there is little potential for impact to geological and mineral resources under either the no action or proposed alternative.

4.3.2 Cumulative Effects

Past, Present, and Reasonably Foreseeable Actions and Effects

No mining activity or other mineral development has occurred in the recent past or is anticipated to occur on, or adjacent to, any of the lands in the proposed land exchange.

Cumulative effects

No cumulative effects of either alternative upon geological or mineral resources are anticipated.

4.4 Wetlands, Floodplains, and Riparian Areas (Issue 1)

4.4.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

This alternative would not result in any changes in land ownership or management, thus there would be no direct or indirect effects wetlands, floodplains, or riparian areas.

Direct and Indirect Effects of Proposed Action

As summarized in Section 3.6.2, the proposed land exchange would result in a net reduction of 3.3 acres of wetlands and 4.3 acre of floodplains within NFS jurisdiction. Forest Service policy

is that the value of wetlands and floodplains must be balanced in land exchanges, with no net loss. Where the respective wetlands/floodplains values are not balanced, the exchange can proceed provided it clearly benefits the National Forest System and potential adverse impacts to wetlands/floodplains on Federal lands to be conveyed are clearly protected, so that no net loss of wetlands/floodplains values occurs.

For the Snowy Range Ranch Land Exchange, a patent restriction to protect cutthroat trout habitat and wetlands/floodplains (see Section 2.6.1 for further discussion) would mitigate any direct or indirect impacts to wetlands, floodplains or riparian areas.

4.4.2 Cumulative Effects

Past, Present, and Reasonably Foreseeable Actions and Effects

Recent past (2007) construction of a small, private hydroelectric facility on East Fork Mill Creek affected wetlands, floodplains or riparian areas. Little or no future development is anticipated in that area. In Taylor Fork area, past public land acquisitions, including the Gallatin II Exchange, the BSL - Taylor Fork purchase, and the 320 Ranch –Taylor Fork purchase, have enabled the Forest Service to conserve most of the wetlands, floodplains, and riparian areas.

Cumulative Effects of No Action

Under No Action, Parcel F in the Taylor Fork would remain in private ownership and would likely be developed in the future to a higher intensity than the one small cabin currently on the property. Such development could potentially affect the isolated wetlands on the parcel, although there is no floodplain or riparian area on the parcel itself.

Cumulative Effects of Proposed Action

In the proposed exchange, the patents conveying the Federal lands would provide long-term protection of wetlands, floodplain and riparian areas associated with East Fork Mill Creek. Public acquisition of the Taylor Fork parcel would protect isolated wetlands on that parcel.

4.5 Fisheries (Issue 2)

4.5.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

Fisheries Conservation

No lands would be exchanged under this alternative, so there would be no change in ownership. All potential future conservation management options (e.g., implementing a habitat enhancement project, and managing fish populations) would be maintained.

Access to Recreational Fishing

There would be no change in access to recreational fishing waters under the no action alternative.

Direct and Indirect Effects of Proposed Action

Fisheries Conservation

In the Proposed Action, patent restrictions on the Federal lands along East Fork Mill Creek would restrict land management activities in floodplain and riparian areas that have potential to affect aquatic habitat.

The patent restrictions would adequately protect the riparian and floodplain areas, and effectively mitigates potential affects of land management activities in floodplain and riparian zones on YCT habitat. The patent restrictions apply to the Federal lands to be conveyed to Weissman, and the Patent Restrictions do not apply to the existing private lands. Further, the Patent Restrictions do not preclude Weissman, and heirs and assigns, from managing vegetation in the restriction areas, including removing hazard trees, reducing fuel accumulations and thinning of trees and shrubs. However, Mr. Weissman has agreed to invite on-site consultation with the Forest Service in regard to vegetation management, to become better acquainted with suggested best practices for the specific environment. These consultations would create no legal responsibility beyond that stated in the patent restrictions, but the consultations represent an acknowledgment that being sensitive to the environment is in the best long term interests of all parties.

The patent restrictions preserve potential future habitat and population management actions on the Federal lands. As such, conservation options that might aid in the long term recovery of YCT would be maintained. If Weissman agrees to manage vegetation on the Federal lands in a manner consistent with allowing for dead snags to be recruited to the stream channel for fish habitat, then no habitat related impacts would occur.

A patent restriction would also be placed on Federal Tract 48, to restrict any surface occupancy or development, and to enable the Forest Service and MT FWP to access and monitor the portion of the hydro facility occupying Tract 48. In addition, Weissman will voluntarily place a deed restriction on his existing private (SRR) lands that are occupied by the hydro electric facility.

As previously stated, population fragmentation is one of the causes for YCT decline throughout their historic range. Fragmentation, or geographic isolation, occurs when a local population or group of interbreeding individuals becomes isolated from other local stream reaches. Isolated populations that suffer catastrophic loss or extinction (e.g., a population is extirpated during or after a wildfire) are not able to re-colonized because they are disconnected from nearby potential founding populations. Conversely, the resident and fluvial spawning patterns of interconnected populations allows for individual sub-populations (e.g., sub-populations in tributary streams to Mill Creek) to suffer genetic losses or go extinct due to environment catastrophe; however, individuals from other streams are able to re-colonize an area after local extirpation (Hanski and Gilpin 1991, as cited in Young 1995: 57). This connectivity exists within the Mill Creek drainage and could play a critical role in post Wicked Fire, and Passage Fire recovery. As such,

fish passage concerns over the hydro-electric facility are relevant. SRR has taken every reasonable precaution in the design and implementation of the hydro facility to ensure that fish passage is not inhibited. The Forest Service and MT FWP have agreed to work cooperatively to evaluate fish passage relative to the hydro facility. A passage study will likely include monitoring movements of adult spawning fish above and below the structure, and monitoring movement and mortality of fry.

Access to Recreational Fishing

The proposed land exchange would result in loss of approximately 1740 feet (870 feet on both the north and south side of the stream) of public riverbank access to the East Fork Mill Creek through Tract 44, and approximately 3,250 feet of riverbank in tracts 45, 46, 47, 48, and 49. Stream access currently exists along the entire length of stream through the project area, though riverbank access only occurs on NFS lands. Except for tract 44, NFS and private lands are intermixed between the north and south banks, making legal access ambiguous. Legal riverbank access currently exists along both north and south banks in Tract 44. For this alternative, riverbank access would be lost through tract 44 to just west of corner 5 (see Map A). Stream access through Tract 44 would still be possible from the Forest Service trailhead, but anglers would be required to stay within the high water mark up to Corner 5, in accordance with the Montana Stream Access Law.

From Corner 5 (Map A) upstream, 1250 feet of additional public riverbank access to the East Fork Mill Creek would be acquired in parcels A, B, C, and D and E along the stream's southern boundary. Except for Tract 44, riverbank access to the stream would be continuous along the stream's southern boundary, with no intermingled ownership.

The net change in legal riverbank access is a loss of approximately 3740 feet. However, the majority of riverbank access on the north boundary is currently blocked by private land, so the net practical change in legal riverbank access is a loss of approximately 490 feet. Stream access for recreation is still possible through Parcel A via the Forest Service trailhead. The south bank above Corner 5 would be continuous public ownership, and the north bank would be continuous private ownership. As such, landownership boundaries would be less confusing, and potential for inadvertent trespass would be minimized.

4.5.2 Cumulative Effects

Past, Present and Reasonably Foreseeable Actions and Effects

Shortly after purchase of SRR in 2001, Weissman undertook several actions aimed at improving or protecting the quality of trout habitat in East Fork Mill Creek. These actions included removal of several cabins with poor sanitary waste disposal located near the creek, cessation of cattle grazing, reduction of flood irrigation and stabilization of bridges over Sage Creek to reduce erosion. In 2007, SRR constructed a small hydropower facility in the East Fork Mill Creek. Approximately 90 feet of the in-stream portion of the structure (i.e., wing wall and diversion weir) was constructed on NFS land. The structure was designed to allow for adult spawning fish to pass upstream, and it was designed to allow for safe passage of fry emigrating

downstream. Monitoring is planned by MT FWP and Forest Service staff to verify that no fish passage problems are occurring. Depending on results, some modifications to the structure may be necessary. Under the No Action alternative, the portion of the structure built on NFS land would need to be authorized under Special Use Permit. This permit could potentially require retrofits or modifications to the portion of the structure on NFS lands, depending on fish passage study results.

No other past, present or reasonably foreseeable future activities would affect YCT habitat, habitat management, or population management in East Fork Mill Creek.

Cumulative Effects of No Action

No cumulative effects to YCT or other fisheries resources would result from the No Action alternative.

Cumulative Effects of Proposed Action

No other past, present or reasonably foreseeable future activities would affect YCT habitat or populations, or other fisheries resources, in streams within the proposed exchange.

4.6 Wildlife (Issue 3)

4.6.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

Threatened and Endangered Species

No lands would be exchanged under the No Action alternative. The Federal tracts identified for exchange would not be subject to private use or development. Under No Action, existing cabins on Parcels B and F would likely remain at these sites, and could be occupied and/or improved in the future. Weissman has indicated no plans for additional development of any Non-federal parcels (A-E) along East Fork Mill Creek. Taylor Fork parcel F would likely be sold. The sale of Parcel F would create a high potential for further development, including possible building construction and/or permanent road access.

The Taylor Fork drainage provides high quality habitat for grizzly bears, largely due to its capacity to support high densities of big game, which provide an important food source for bears. Parcel F is in the midst of vital big game winter range. Further development on private lands in the Taylor Fork area could affect distribution and habitat use by big game species, which in turn could affect prey availability for bears. Residential development would also have disturbance effects on bears. Private lands are not subject to food storage regulations applied on NFS lands. Since bears can be attracted to human foods, additional occupied dwellings in Taylor Fork could increase risk for grizzly bear – human conflicts in the area. Parcel F is not suitable lynx habitat, so development of this parcel would have no effect on lynx or lynx habitat.

Forest Service Sensitive Species

Sensitive species known to occur, or for which suitable habitat exists in the vicinity of lands identified for exchange include the gray wolf, bald eagle, peregrine falcon, wolverine, black-backed woodpecker, flammulated owl, trumpeter swan, harlequin duck, and western big-eared bat. All Forest Service planned, funded, executed or permitted programs and activities are to be reviewed for possible effects on sensitive species in a Biological Evaluation (FSM 2672.4).

The following documentation in this specialist report constitutes the Biological Evaluation for this project.

The Taylor Fork drainage provides high quality habitat for wolves, largely due to its capacity to support high densities of big game, which provide the primary prey species for wolves. Parcel F is in the midst of vital big game winter range. Further development on private lands in the Taylor Fork area could affect distribution and habitat use by big game species, which in turn could affect prey availability for wolves. Residential development would also have disturbance effects on wolves.

Bald eagles and wolverines are known to scavenge ungulate carcasses on winter range. Changes in big game use of the Taylor Fork area could impact potential winter food sources for bald eagles and wolverines. However, since eagles and wolverines are mainly scavengers and rarely prey directly on big game, carcasses would be available elsewhere and impacts would be minor.

The Taylor Fork parcel is within foraging distance of a known peregrine falcon aerie. However, foraging habitat is not limited in the vicinity of this nest. Therefore, potential private use and development of this parcel would probably have little impact on nesting peregrine falcons. There are no known peregrine falcon aeries in the vicinity of SRR, although there is suitable habitat along East Fork Mill Creek and Mill Creek. Since foraging habitat is not limited for peregrine falcons in either area, there would be no notable impacts to the species from additional development on existing private lands.

Potential development on the Taylor Fork parcel could produce additional noise and disturbance near the creek, which may reduce overall suitability as nesting and foraging habitat for breeding harlequin ducks and trumpeter swans. Nesting of these species has not been documented on Taylor Fork, possibly due to lack of streamside vegetation and/or existing disturbance levels. Therefore, additional development is not expected to have notable impacts to harlequin ducks.

Under the No Action Alternative, no development would occur on Federal Tracts 43 and 44 near SRR, which provide flammulated owl nesting and foraging habitat. Human use of existing cabins on private land Parcels B and F would likely preclude use of these structures by bats. Any further development on private parcels A - F could alter foraging habitat for flammulated owls and western big-eared bats. However, foraging habitat for these species is not limited in areas identified for exchange, so impacts would be minor.

Under the No Action alternative, potential for further development and associated habitat alteration is greatest on the Taylor Fork parcel, which does not provide black-backed woodpecker habitat. Therefore, the No Action alternative would have no impact on black-backed woodpeckers.

Other Species of Management Concern

Since neither the SRR lands nor the Taylor Fork parcel provide suitable reproductive habitat for MIS such as northern goshawk or pine marten, and since foraging habitat is not limited for these species in either area, the No Action alternative would have no effect on either goshawk or marten. However, because both SRR and Taylor Fork areas contain suitable habitat for big game, and notably important big game winter range in the Taylor Fork area, the No Action alternative, with associated potential for further development on the Taylor Fork parcel, could have impacts on big game species, particularly elk, which is a designated MIS in the Gallatin Forest Plan. Parcel F is a relatively small proportion of available big game winter range in the drainage, and there is a chance there would be no further development on this parcel, so effects of the proposed action could be minor. However, big game species are a management focus in Taylor Fork, and even incremental impacts to small tracts are of management concern.

The No Action alternative and associated potential for further development on existing private lands could have impacts on migratory bird species through habitat alterations. Brewer's sparrow is a species of concern that nests almost exclusively in sagebrush habitat. Further development of the Taylor Fork parcel would have adverse impacts on Brewer's sparrow habitat if sagebrush were reduced. A number of other migratory bird species are strongly associated with grass/shrub habitat such as that found on the Taylor Fork parcel. Residential construction and road access would result in permanent habitat loss for some migratory bird species; for example grass/shrub associated species. On the other hand, under the No Action alternative, there would be no residential development or road access on Tract 44 adjacent to SRR. This tract is dominated by drier, montane forest types often used by great gray owls for nesting. The No Action alternative would maintain the suitability of this tract as potential nesting and foraging habitat for great gray owls and other migratory bird species that select for relatively dry open forest types. The No Action alternative would not have notable impacts on other migratory bird species of concern.

Direct and Indirect Effects of Proposed Action

Threatened and Endangered Species

Anticipated development of Federal lands to be exchanged includes the potential construction of a cabin on Tract 44, just west of the existing SRR. A short segment of road (approximately 600 feet) may be constructed to access this cabin. Such activity would not affect primary lynx habitat, since development would occur below the elevation cutoff for lynx habitat, in drier Douglas-fir types. Streamside tracts involved in the proposed exchange are also below the elevation cutoff for primary lynx habitat, but may be of greater value to lynx, since they contain both forested and deciduous riparian components that provide potential foraging habitat with the presence of alternate prey species. The proposed exchange includes a patent restriction on the

Federal lands to restrict certain management activities in the floodplain and riparian areas that have the potential to affect lynx habitat. This patent restriction would constitute a covenant running with the lands and binding upon current owners of SRR, heirs and assigns for permanent protection of wetland and riparian habitat along East Fork Mill Creek and Upper Sage Creek.

After the exchange, Weissman plans to work with Park County to “assemble” the small parcels into one property. Much of the development of the SRR has already occurred, and little or no further development of the SRR is anticipated. Weissman has also expressed an interest in placing a conservation easement on the SRR after the exchange.

Non-federal lands proposed for exchange to the U.S. include approximately 1.16 acres in small parcels along East Fork Mill Creek, and one 20.23-acre parcel in Taylor Fork. Although not primary habitat, the riparian habitat in East Fork Mill Creek could have utility for lynx. The Non-federal land in the Taylor Fork is not lynx habitat, since it is non-forest, open, grass/shrub meadow with a few scattered lodgepole pine trees.

Parcel F is known occupied habitat of grizzly bears. Taylor Fork has some of the higher grizzly bear densities on the Gallatin National Forest. Since occupied human dwellings can be a source of conflict with grizzly bears, public acquisition and removal of the cabin on the Taylor Fork parcel would reduce potential for conflict and benefit grizzly bears. Public acquisition would also preclude additional road building and residential development on the Taylor Fork parcel.

Public acquisition of the Taylor Fork parcel would meet the intent of the Grizzly Bear Recovery Plan to limit the number of developments, and also meet the overall goal to manage habitat to sustain a recovered population of grizzly bears. SRR is within an area considered to be occupied by grizzly bears. There have been no conflicts with grizzly bears at SRR in the past, and no reason to expect conflicts to occur due to any provisions of the proposed exchange.

Forest Service Sensitive Species

Public acquisition of Parcel F in the Taylor Fork would be in line with management objectives to consolidate lands and facilitate conservation of important wildlife habitat. Further consolidation of winter range in Taylor Fork would help manage for sustainable populations of big game species, which in turn would help maintain a recovered population of gray wolves.

Potential development of a cabin on Federal land (Tract 44) in East Fork Mill Creek could have slight impacts on big game use in the vicinity, but would not affect winter range. Managing for suitable winter range is a management focus for maintaining sustainable populations of gray wolves. SRR is not an active livestock operation, so there would be no wolf-livestock conflicts anticipated with the proposed exchange.

The Taylor Fork parcel is big game winter range, which could provide an occasional food source for bald eagles wintering in Gallatin Canyon. Public acquisition of this parcel would help consolidate winter range in the Taylor Fork area, which could also have slight benefits for bald eagles. The East Fork Mill Creek lands do not provide big game winter range, so have little

value in terms of providing ungulate carcasses as a food source for wintering bald eagles. The proposed exchange would have no effect on bald eagle nesting habitat.

There is a known active peregrine falcon nest site within foraging distance of the Taylor Fork parcel. Acquisition of this parcel and removal of the cabin would help protect the integrity of the habitat as peregrine falcon feeding grounds. There are no known peregrine nests within foraging distance of Snowy Range Ranch.

The proposed exchange lands are located at lower elevation than areas most frequented by wolverines. However, wolverines are capable of long range movements that could include traversing proposed exchange lands. Wolverines often scavenge ungulate carcasses on an opportunistic basis. Public acquisition of the Taylor Fork parcel would help consolidate big game winter range, which in turn could help to maintain healthy herds and thus provide a consistent food base for wolverines. Possible development of a cabin on Tract 44 in East Fork Mill Creek would alter habitat, but SRR and adjacent private land already include a number of houses and associated development. Wolverines tend to avoid areas occupied by humans.

Harlequin ducks and trumpeter swans are water fowl that select for swift, cold mountain streams and slow, meandering oxbows, respectively, for nesting habitat. The proposed exchange would not result in activities that would alter habitat for harlequin ducks or trumpeter swans. Patent restriction imposed on private acquisitions along East Fork Mill Creek would help protect water quality and riparian habitat, which are important components of harlequin duck habitat.

Addition of a cabin on Tract 44 could alter flammulated owl nesting and foraging habitat. However, such development would not necessarily reduce overall suitability of this area as nesting habitat, since flammulated owls are quite tolerant of human activities and have been known to nest near areas occupied by humans (McCallum 1994:41). The Proposed Action would preclude further development on other lands that provide foraging habitat for flammulated owls, although foraging habitat is not limited in the areas involved in the proposed exchange.

There may be isolated incidents of insect infestations on some of the Non-federal lands. However, the presence of many thousands of acres of recently burned forest available in the vicinity would be a more likely habitat choice for black-backed woodpeckers. The Taylor Fork parcel does not provide black-backed woodpecker habitat. Therefore, the proposed exchange would have no impact on black-backed woodpeckers.

Removal of the unoccupied cabins from Non-federal Parcels B and F would eliminate potential roost sites for western big-eared bats. The Taylor Fork cabin has shown use by bats (species unknown) as recently as 2008. Since bats make limited use of small buildings as roost sites, and neither existing structure has characteristics of suitable roosts for winter hibernacula or maternal colonies, removal of existing cabins would have only minor impacts on western big-eared bats. Building a cabin on Tract 44 would alter potential foraging habitat for bats. However, foraging habitat is not a limiting factor near SRR, so such a development would have little impact on bats.

Other Species of Management Concern

Under the Proposed Action, patent restrictions would prohibit most activities that would alter riparian habitat on lands along East Fork Mill Creek. Riparian habitat provides potential foraging habitat for MIS such as goshawk, marten and elk. Riparian habitat is a key component of migratory bird habitat. More than half of western land bird species breed exclusively or primarily in deciduous riparian habitat and breeding bird species diversity is much greater than that found in upland communities (Tewksbury et al. 2002:158).

Public acquisition of the Taylor Fork parcel would preclude permanent development on potential goshawk foraging habitat, elk winter range, and nesting/foraging habitat for a number of migratory bird species. Construction of a cabin and access road on Tract 44 would alter potential foraging habitat for goshawks, spring/fall range for elk and nesting/foraging habitat for migratory bird species. However, the proximity of Tract 44 to existing private developments on HES 866 limits the utility of the habitat for goshawk, elk and some bird species that tend to avoid areas of human habitation.

4.6.2 Cumulative Effects

Past, Present and Reasonably Foreseeable Actions and Effects

Past, present and reasonably foreseeable future activities that could also affect wildlife species in the East Fork Mill Creek and Taylor Fork areas include recent land exchanges and acquisitions in which important habitats were either added to public ownership or conveyed to private ownership.

The most significant land transitions have occurred through the Gallatin Land Consolidation Act, which significantly reduced “checkerboard” ownership of intermingled public and private lands across much of the Gallatin National Forest, and notably in the Taylor Fork drainage. When Weissman acquired the SRR in 2001, he initiated improvements aimed at increasing big game habitat quality on the ranch, including enhancement of ponds used by moose and replanting meadow areas with a seed mix favorable for wildlife browse.

Cumulative Effects of No Action

Threatened and Endangered Species

The only cumulative effects to a threatened species would be the undermining of the long term benefit to grizzly bear habitat created by the land acquisitions completed in the Gallatin Land Consolidation Act, and the 320 Ranch -Taylor Fork purchase, should Parcel F be developed.

Forest Service Sensitive Species

Other than the long term benefits of the land acquisitions completed under the Gallatin Land Consolidation Act and the 320 Ranch -Taylor Fork purchase, there are no other past, present or

reasonably foreseeable future activities that would affect sensitive species or their habitat in the vicinity of lands identified for exchange.

Other Species of Management Concern

MIS and migratory bird habitat has been shaped by land ownership and use patterns over time. Residential, recreational and agricultural developments have resulted in permanent habitat alterations that have adversely impacted some species, while benefiting others. For example, residential developments, recreation facilities, and high road densities that facilitate residential, resource extraction and recreation use have reduced suitable habitat for goshawks, marten, elk and many migratory bird species. Conversion of forest types to agricultural land has reduced security and reproductive habitat for goshawk, marten, elk and some migratory bird species, but created foraging habitat for these and other species.

Land exchanges and land purchases on the Gallatin National Forest completed during the past two decades have served to consolidate land ownership, resulting in large contiguous blocks of public land in places like the Taylor Fork, and large contiguous blocks of private land in other areas. Public lands are less likely than private lands to incur permanent development. As a very general rule for migratory birds, habitat specialist species tend to incur negative impacts from human development, whereas habitat generalist species are more tolerant, and often benefit from human land uses. Migratory bird species of concern are typically habitat specialists.

Cumulative Effects of Proposed Action

Threatened and Endangered Species

The proposed action would complement the benefits to grizzly bear habitat secured by the land acquisitions under the Gallatin Land Consolidation Act and 320 Ranch-Taylor Fork purchase.

Forest Service Sensitive Species

The proposed action would complement the benefits to big game, gray wolf and bald eagle habitat secured by the Gallatin Land Consolidation Act and 320 Ranch-Taylor Fork purchase.

Other Species of Management Concern

Cumulative effects to MIS and migratory bird species under the proposed action are similar to those described above under the No Action alternative, except that the Proposed Action alternative furthers the consolidation of public land and conservation of important wildlife habitat in the Taylor Fork area.

4.7 Encroachments on NFS Lands (Issue 4)

4.7.1 Direct and Indirect Effects

Direct Effects of No Action

As discussed in Section 3.9, encroachments related to residential development currently exist on Federal Tract 43. An encroachment related to a hydro-electric facility exists of Tract 48. Under the No Action alternative these encroachments would likely remain and the Forest Service would need to take steps to either remove the encroachments, or authorize their continued presence.

Direct Effects of Proposed Action

Under the Proposed Action, the Federal tracts containing encroachments would be exchanged to SRR, in exchange for other lands that are not encumbered by such developments.

4.7.2 Cumulative Effects

Other than potential removal of the encroachments, or the potential issuance of Forest Service special use permits under the No Action scenario, there are no anticipated cumulative effects related to the private encroachments on the Federal lands.

4.8 Recreation and Public Access (Issue 5)

4.8.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

Public access and recreational opportunities in the project area would not be affected by the No Action alternative.

Direct and Indirect Effects of Proposed Action

Federal tracts 43-47 are located in the Rural ROS (Refer to the recreation opportunity spectrum descriptions in Section 3.10). Non-federal Parcels A, B, and C (1.05 acres) are also in the Rural ROS. Rural settings include private lands with development. The exchange of Federal lands in the Rural ROS would not change the recreation setting in the vicinity of SRR, where the sights and sounds of human activity are already readily evident. The exchange of the Federal tracts will not negatively affect this recreation setting.

Federal Tracts 48 and 49 are located in the Semi-primitive Non-motorized ROS. Non-federal Parcels D and E (0.11 acres) are also in the same ROS. Although mapped as semi-primitive non-motorized, the Federal tracts lie adjacent to private lands. The exchange of Federal lands adjacent to this Semi-primitive Non-motorized area would not negatively affect recreationists.

Parcel F (20.23 acres) in the Taylor Fork drainage is located in the Roaded Natural ROS in the summer and the Semi-primitive Non-motorized in winter months. Currently, the parcel is occupied by a small cabin. The Proposed Action includes removal of the cabin and would

eliminate any need for developing road access. Public acquisition of Parcel F in this recreational setting would improve dispersed recreation opportunities for the public, and maintain a desirable visual quality for recreational users seeking a wild, natural looking, undeveloped viewshed.

Recreation opportunities are also affected by changes in access to Federal lands. The proposed action would not change access points in the East Fork Mill Creek or the Taylor Fork areas.

East Fork Mill Creek Road No. 3280 would continue to provide public access to the East Fork Mill Creek trailhead. The Proposed Action would not change access on East Fork of Mill Creek Trail 51, the Highland Trail 69 or the Meadow Creek Cutoff Trail 223. Fishing access to the East Fork Mill Creek would change due to the exchange of tracts 44,45,46,47,48 49 and parcels A, B, C, D, E. For more information on effects on fishing access, see Section 3.7, Fisheries.

4.8.2 Cumulative Effects

Past, Present and Reasonably Foreseeable Actions and Effects

The Forest Service has issued permits to Weissman for snow plowing the East Fork Mill Creek Road 3280. He has made it a policy to clear the parking area at the trailhead on the East Fork. The snow plowing dramatically increased winter recreational use of the area.

No cumulative effects related to public access or recreation use are anticipated from either the No Action or the Proposed Action.

4.9 Threatened, Endangered, and Sensitive Plant Species

4.9.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

Since no changes in land management or ownership would result from the No Action alternative, no effects to threatened, endangered or sensitive plant species would be anticipated.

Direct and Indirect Effects of Proposed Action

No threatened, endangered or sensitive plant species were found during 2008 surveys of Federal tracts (43-49) proposed for exchange in the East Fork Mill Creek area. So any future private use of these tracts is not expected to impact sensitive plants. Tract 44, on which a cabin and an access road could be constructed, has experienced past disturbance and is currently occupied by non-native and invasive plant species such as dandelion and hounds tongue. Sensitive plants typically do not occupy disturbed sites. Riparian tracts (44-49) would be protected from future development through the patent restrictions.

In summary, no effects to threatened, endangered, or sensitive plant species are anticipated from implementation of the Proposed Action.

4.9.2 Cumulative Effects

No adverse cumulative effects to threatened, endangered, or sensitive plant species should result from implementation of either alternative.

4.10 Noxious Weeds

4.10.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

The No Action alternative should have no effect on the existing weed infestations on lands in the East Fork Mill Creek area, or on the absence of infestations on Parcel F in the Taylor Fork area.

Direct and Indirect Effects of Proposed Action

A possible effect of the land exchange would be the acquisition of weed infected land. Based on the surveys, the U.S. would not acquire many lands with weeds, except for 1.16 acres adjacent to Mill Creek. Actually, the exchange may benefit the Forest Service by exchanging 13.12 acres of weed infested Federal lands in the East Fork Mill Creek area. A possible indirect effect would be the loss of access to these areas for weed control. This is not a concern for lands to be acquired in the East Fork Mill Creek area, as access is available via adjacent NFS land.

The acquisition of land in the Taylor Fork would not have a direct effect or an indirect effect on invasive weeds. Currently, there are no known weed populations on this land, and the land exchange will not limit access to the area.

4.10.2 Cumulative Effects

No cumulative effects related to weed infestation are anticipated for either alternative.

4.11 Cultural Resources

Since no cultural resources were found during surveys of the lands in the proposed land exchange, neither of the alternatives would affect any cultural resources.

4.12 Visual Quality

4.12.1 Direct and Indirect Effects

Direct and Indirect Effects of No Action

No direct or indirect effects to the visual quality in the East Fork Mill Creek area would be anticipated from implementation of the No Action alternative.

Under the No Action, there would most likely be a change to the visual quality in the Taylor Fork area. The expected change would include development of one or more private homes and new road construction. The desirability of human occupancy and development of Parcel F would be very high because of the outstanding recreation opportunities surrounding the parcel (hunting, fishing, hiking) and the remarkable views of the Lee Metcalf Wilderness Area.

Scenery in the Taylor Fork drainage provides views from the travel corridor and sensitive observation points. Ground disturbing activities such as residential development would alter the landscape and scenery in the Taylor Fork. In the No Action Alternative, construction of homes and new roads in the foreground of critical viewsheds from Taylor Fork Road No. 134 could alter the current condition of scenery. The Forest Plan (*II-16*) assigned foreground views in these portions of the Taylor Fork a VQO of Retention, which means that human activities are not evident to the Forest visitor. New buildings on Parcel F and new road across NFS lands would be visually evident, and would not meet the Forest Plan standard for visual quality in that area.

Direct and Indirect Effects of Proposed Action

No direct or indirect effects to the visual quality of the East Fork Mill Creek Area would be anticipated from implementation of the Proposed Action. Public acquisition of Parcel F and proposed removal of the cabin would benefit the visual resources of the Taylor Fork area and the viewshed from Taylor Fork Road No. 134.

4.12.2 Cumulative Effects

Cumulative Effects of No Action

The likely visual impact to the Taylor Fork area, described above as an indirect effect of the No Action alternative, would undermine the progress accomplished under the Gallatin Land Consolidation Act and the 320 Ranch – Taylor Fork purchase.

Cumulative Effects of No Action

The Proposed Action would provide long-term protection of visual resources on Parcel F in the Taylor Fork, complimenting protections of adjacent lands achieved under the Gallatin Land Consolidation Act and the 320 Ranch – Taylor Fork purchase.

4.13 Hazardous Materials

Since no hazardous materials are known to occur on any of the lands in the proposed land exchange, neither of the alternatives would affect any hazardous materials.

4.14 Gallatin and Park County Revenues

4.14.1

Direct and Indirect Effects of No Action

The No Action alternative would have no known effect on the Gallatin or Park County revenues, because no change of land ownership in either county would result.

Direct and Indirect Effects of Proposed Action

In Park County, approximately 13.12 acres of Federal lands would transfer into private ownership and approximately 1.16 acres of Non-federal (SRR) lands would transfer to the U.S.

This would result in an increase in revenues to Park County, since tax revenues from private lands in the Snowy Range Ranch area greatly exceed SRS payments made by the Forest Service.

In 2008, tax payments to Park County on SRR lands were approximately \$453/acre. This reflects the rate of taxes on developed property. Federal SRS payments to Park County were approximately \$1.15/acre in that same year.

In Gallatin County, approximately 20.23 acres of Non-federal land would transfer to the U.S. and no Federal lands would transfer to private ownership. This would result in a decrease in revenues to Gallatin County, since tax revenues in the Taylor Fork area exceed SRS payments.

In 2008, property tax payments on the Taylor Fork Parcel F were approximately \$21.70/ acre. Gallatin County received Federal SRS payments of approximately \$0.85/acre in that year.

4.14.2 Cumulative Effects

No cumulative effects related to county revenues can be determined from implementation of either alternative.

4.15 Other Disclosures

4.15.1 Public Health and Safety

The proposed exchange does not include activities that pose a risk to public health and safety.

4.15.2 Irreversible and Irretrievable Commitment of Resources

An irreversible commitment of resources refers to the use or commitment of a resource that cannot be reversed. For example, nonrenewable resources, such as minerals in ore, would be removed forever during the milling of the ore and would be irreversibly committed. An

irretrievable commitment is the short-term loss of resources, resource production, or the use of a renewable resource because of land use allocations, or a scheduling or management decision.

The proposed land exchange does not involve the use of resources so there are no irretrievable commitments. The proposed exchange, however, could be considered an irreversible commitment of the lands involved, as the ownership of lands would change. It would be unlikely that lands conveyed into private status would ever be reincorporated into NFS status.

4.15.3 Possible Conflicts with Other Land Use Plans, Policies, and Controls

Neither of the alternatives discussed in this EA would be inconsistent with the objectives of Federal, regional, state, or local land use plans, policies, or controls in the project area.

4.15.4 Energy Requirements and Conservation Potential of Alternatives

Implementing the Proposed Action should not require any measurable increase in the use of petroleum products as compared with the No Action Alternative. Although the total acreage of NFS lands in the Gallatin would increase slightly through implementing the proposed action, the overall pattern of NFS lands would be consolidated, facilitating efficient administration.

The lands involved in the proposed exchange have low potential for oil and gas production.

4.15.5 Environmental Justice

By Executive Order 12898, as amended, agencies of the United States are directed, to the greatest extent practicable and permitted by law, to assure the fair treatment of people of all races, cultures, and income, with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies.

The public involvement conducted for this EA is documented in Chapter 2 and the Project File.

The environmental consequences resulting from the Proposed Action and the No Action alternative are described above in this chapter. No racial, ethnic, or socioeconomic group would bear a disproportionate share of the consequences of the proposed action or no action alternative.

4.16 Comparison of Environmental Impacts by Issue and Alternative

Table 4.1 on the next page provides a comparison of environmental impacts by alternative.

4.16 Comparison of Environmental Impacts by Issue and Alternative

Table 4.1: Comparison of Environmental Impacts by Alternative			
Issue	Issue	No Action	Proposed Action
1	Wetlands, Floodplains, and Riparian Protection	No direct or indirect impacts to Wetlands, Floodplains, or Riparian areas would result.	Would result in reduction of wetland, floodplain and riparian area on NFS lands. However, any potential impacts would be mitigated through land patent restrictions protecting these resources.
2	Fisheries, Maintenance or Loss of Habitat	No direct or indirect impacts to fisheries habitat or recreational fishing access would result.	Any potential direct or indirect impacts to fisheries habitat would be mitigated through land patent restrictions. A practical net reduction of 490 linear feet of stream bank fishing would result.
3	Wildlife, Maintenance or Loss of Habitat	Indirect impacts to grizzly bear, gray wolf and big game animals could occur due to potential for private development in high-quality habitat in Taylor Fork area.	Any potential direct or indirect impacts to lynx travel habitat in East Fork Mill Creek riparian areas would be mitigated through patent restrictions. Benefits to grizzly bear, gray wolf and big game animals would result from consolidation of land in Taylor Fork area and removal of an existing cabin.
4	Encroachments on NFS lands	Would not resolve the existing encroachments on Federal tracts 43 and 48.	Would resolve the existing encroachments through an exchange of the affected Federal lands to Weissman.
5	Public, Private and Administrative Access	No impact to public, private or administrative access would result.	Other than the reduction of stream bank fishing access noted above, no impacts to public, private or administrative access would result.

Chapter 5

Preparation and Consultation

This chapter includes a list of Forest Service staff who participated in the environmental analysis and preparation of this EA; a list of agencies, organizations, and individuals consulted in the process; and a list of individuals and organizations receiving the EA.

5.1 Forest Service Participants

The following agency personnel participated on interdisciplinary team for the analysis of this proposed action, or provided technical, procedural, and administrative assistance.

<u>Name/Title</u>	<u>Contribution</u>
Robert Dennee, Leader, East Side Lands Zone	Project Manager
John Slown, Biologist/Planner	Writer/Editor
Ron Archuleta, Yellowstone District	District Ranger
Lauren Oswald, Yellowstone District	Assistant District Ranger
Pamela S Brown, Yellowstone District	Resource Assistant, Lands, Roads
Cavan Fitzsimmons, Hegben Lake District	District Ranger
Bill Queen, Hegben Lake District	Former District Ranger
Rob Davies, Hegben Lake District	Resource Assistant, Recreation, Lands
Dale White, Civil Engineer	Environmental Site Assessment, Cabins
Peter Werner, P.E., Mining Engineer	Mineral Resources
Scot Shuler, Fisheries Biologist	Fisheries, Aquatics – East Fork Mill Creek
Bev Dixon, Wildlife Biologist	Wildlife and Habitat
Walt Allen, former Forest Archeologist	Cultural Resources
Mark T. Story, Forest Hydrologist	Wetlands, Floodplains, Riparian Resources
Bruce C. Roberts, West Zone Fisheries Biologist	Fisheries, Aquatics – Taylor Fork
Susan LaMont, Hegben Lake District	Invasive Weeds
Wendi Urie, Yellowstone District	Recreation, Wilderness, Trails
Sally Senger, Forestry Technician	Sensitive Plants

5.2 Consultation with Individuals, Organizations, and Other Agencies

The following individuals, organizations, and agencies were consulted in the analysis of this project and in preparation of this EA.

- USDI - Bureau of Land Management
- Montana Fish, Wildlife, and Parks
- Park County Commissioners
- Gallatin County Commissioners
- N.C. Wheeler & Associates, Contract Appraiser
- U.S. Fish and Wildlife Service

5.3 EA Distribution

This EA will be distributed for a 30-day public review and comment period. Comments received during this period will be considered in the selection of the preferred alternative.

Copies of this EA are available for review at:

Yellowstone Ranger District
5242 Highway 89 South, Livingston, MT 59047

Forest Supervisor's Office
Federal Building
10 East Babcock Street
Bozeman, MT 59715

Copies of this EA were distributed to the following agencies, organizations, and individuals who have expressed an interest in the project.

Senator Max Baucus
Senator John Tester
Congressman Dennis Rehberg
Crow Tribal Council
Pat Flowers, Montana Fish, Wildlife, and Parks, Bozeman
Karen Loveless, Montana Fish, Wildlife, and Parks, Livingston
Park County Commissioners
Park County Planning Department
Gallatin County Commissioners
Montana Department of Natural Resources, Bozeman

Walt Weissman, Snowy Range Ranch
Bill LaWarre

Alex Diekmann, The Trust for Public Land
Middleton "Sandy" Martin, Trapper's Cabin Ranch
Kim and Kelly Kelsey, Nine Quarter Circle Ranch
Linda Miller, Elkhorn Ranch
Rocky Mountain Elk Foundation
Bob Ekey, Wilderness Society
Barb Cestero, Greater Yellowstone Coalition
Louis Goosey, Park County Rod & Gun Club
Gallatin Wildlife Association
Glen Hockett

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Personal Communications

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